REGIONAL PLANNING

PART II - ST. LOUIS REGION

JUNE - 1936

NATIONAL RESOURCES COMMITTEE

REGIONAL PLANNING

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NATIONAL RESOURCES COMMITTEE

JUNE 1936

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NATIONAL RESOURCES COMMITTEE

INTERIOR BUILDING

WASHINGTON

June 2, 1936.

The PRESIDENT,

The White House.

MY DEAR MR. PRESIDENT:

We have the honor to transmit herewith a report on Regional Planning for the St. Louis region, which constitutes Part II of the proposed series of reports on Regional Planning activities and progress.

The National Resources Committee has secured the cooperation of the St. Louis Regional Planning Commission in the preparation of this document and has added a brief foreword with findings and recommendations.

Sincerely yours,

HAROLD L. ICKES
Secretary of the Interior, Chairman

GEORGE H. DERN,
Secretary of War.

HENRY A. WALLACE,
Secretary of Agriculture.

DANIEL C. ROPER,
Secretary of Commerce.

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Secretary of Labor.

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Works Progress Administrator.

FREDERIC A. DELANO.

CHARLES E. MERRIAM.

View showing St. Louis (left), the Mississippi River and four of the six interstate bridges. Note the sharp curve in the Mississippi (at the top of the picture) where a large park and airport could be created by straightening the river with appropriate Federal and interstate cooperation

REGIONAL PLANNING—PART II
ST. LOUIS REGION

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FOREWORD

RECOMMENDATIONS OF THE NATIONAL RESOURCES COMMITTEE

Interstate planning studies for metropolitan areas have shown the value of planning and the possibilities of interstate cooperation to carry out broad schemes of regional development. To the experience in this field gained through the private efforts of foundations and associations in New York, Philadelphia, Chicago, San Francisco, and other centers, the National Planning Board (the predecessor of the National Resources Committee) has added another example through cooperation with the St. Louis Regional Planning Commission.

An association for cooperation of the City of St. Louis with the City of East St. Louis and the counties on both banks of the Mississippi River had made a beginning on regional planning studies some years before the National Planning Board of the Public Works Administration was organized. They applied to the new Board for assistance, which was provided through the assignment of consultants and through the approval of a Civil Works Administration project providing drafting and stenographic assistance.

Agencies in the St. Louis Region

The St. Louis Region, where notable progress in both the making and execution of plans had been secured by the City Planning Commission for St. Louis, offered an unusual opportunity to demonstrate the problems and possibilities of planning work in which a number of different agencies at different levels of government were interested.

The cities of St. Louis and East St. Louis presented urgent problems of traffic, housing, recreation and similar recognized fields of social planning activity. The adjoining counties into which the central city was rapidly expanding faced special problems in the provision of sanitary facilities and all of the difficulties that go with the urbanization of country districts. The more distant counties were feeling the effect of the depression in the urban centers at the same time that they faced their own problems of depleted soil or other agricultural and rural questions.

The two States of Missouri and Illinois were interested to tie together their Public Works Programs and policies concerning highways and other transportation facilities, recreation areas, railroads, etc.

The Federal Government, with a primary interest in the Mississippi River, is concerned not only with navigation, flood control and other direct attributes of the river problem, but also with related aspects such as bridges, port development, public works and other proposals like the Thomas Jefferson Memorial.

The Boundaries of the Region

The Report of the St. Louis Regional Planning Commission brings to public attention the significance of the related problems concerning these different governmental units and reviews in turn the different areas affected in the case of each problem.

One of the most significant points brought out in the report of the St. Louis Commission is the variety of boundaries which might be described as the logical planning unit for the region. There is one area which comprises the developed urban portion of the region; another into which urban development is rapidly distributing itself, so that it already has some of the characteristics of a metropolitan district; and there are larger factors of marketing, telephone rates, free delivery, and similar criteria which indicate a still farther flung boundary or area or influence.

These different degrees of urban influence set the boundaries for different kinds of planning problems. The only common factor in all of them is the center of influence at or near the center of population. It is worth noting that in this respect the metropolitan type of regional planning corresponds with the planning problem for larger-scale interstate and subnational areas as developed in our report entitled, "Regional Factors in National Planning and Development."

Description of the Region

The St. Louis Regional Planning Commission, acting as the central organization for all of the types of planning district beyond the city or on other single jurisdiction, has proposed a "metropolitan area" and a regional area and have evaluated with care the conditions and reasons for the limitations of each of these districts. The metropolitan district is included within a 20-mile radius from the central business district and comprises 840 square miles. The larger "region" embraces three entire counties in Illinois and two

townships and part of a fourth county, while on the west side of the Mississippi it includes all of St. Louis County and portions of three adjoining counties. Practically all of the region is included within 35 miles from the central business district and is roughly 3,200 square miles in area. These two districts contain a great variety of land and water scenery and resources varying from the Great Flat of the Mississippi Bottom Lands to the rugged country on the edge of the Ozarks.

The region in 1930 had 1,391,384 inhabitants and has been growing at widely varying rates in different parts of the area. A 10-year increase, for instance, in St. Louis County was over 110 percent, while Monroe County shows an actual decrease in population. The quantity and distribution of the population, as in other planning studies, is the basis for all proposals for changes in their physical surroundings. It is, therefore, treated with appropriate detail in the report.

The St. Louis Regional Planning Commission has made an intensive study of the present uses of lands within the region and presents a series of recommendations on changes in these present uses through creation of more adequate facilities by highway, rail, and transit lines; for the more adequate provision of water supply and disposal of wastes; and in general for improved housing of the people. The first steps towards a long-range program of public improvements is outlined in the report.

Federal and State Interests in the Region

The most significant portion of the report deals with Federal and interstate problems and includes statements on the variety of interests which spread beyond the boundaries of any one political unit. The report stresses the necessity for cooperation to prevent uncoordinated and unrelated development in adjoining areas and to provide a well-rounded and balanced development of the whole region.

The St. Louis Commission recommends the creation of an interstate authority, with Federal representation, to make an immediate and vigorous attack on sanitation, highway, transportation, and recreation problems involving the States of Illinois and Missouri and the interests of the Federal Government. The Commission believes that only through such a new agency can an effective attack be made on problems which are now nobody's business because they are everybody's business.

The value of a regional authority for planning and later, if conditions warrant an authority to carry through appropriate programs of construction, is already recognized, and the first steps towards the creation of such an organization will presumably come through the State legislatures of the States concerned.

Recommendations

In view of the significance of the findings and principles outlined in the report of the St. Louis Regional Planning Commission the National Resources Committee recommends that:

1. *Continuous Regional Planning:* A continuing regional or interstate advisory planning activity and planning organization for the St. Louis Region should be provided through cooperation of planning agencies of the cities, counties, and two States, and with the assistance of Federal officials in the area.

2. *A Regional Agency:* In order that construction and development of appropriate facilities may be provided and in order that abuses of resources which affect the whole or more than one State in the region may be prevented, the advantages and utility of a regional agency established by the acts of Legislatures of Illinois and Missouri with Federal participation and Federal consent to an interstate compact, be called to the attention of the appropriate State and Federal authorities.

REPORT OF THE

ST. LOUIS
REGIONAL PLANNING COMMISSION

FEBRUARY 1936

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ACKNOWLEDGMENTS

The compilation of data for the report on the regional plan of St. Louis was made during a 2-year period beginning in January 1934.

Mr. Harland Bartholomew has been technical director of the work of preparing the report, with Russell H. Riley as assistant director. They were assisted by a large number of persons from different parts of the region, who have given most generously of their time and effort.

Special assistance has been given by Mr. Hyman Shifrin, who had charge of collecting information on sewers and water supply; Mr. Max Doyne, on transportation matters; Mr. G. C. Hetlage, who assisted on land use studies; and Mr. Wm. E. Rolfe, who prepared the studies on history, geology and topography.

ST. LOUIS REGIONAL PLANNING COMMISSION

342 CIVIL COURT HOUSE, ST. LOUIS, MO.

February 21st, 1936.

HON. HAROLD L. ICKES,

Chairman National Resources Committee, Washington, D. C.

MY DEAR MR. ICKES:

The board of directors of the St. Louis Regional Planning Commission at its meeting on the 17th of February approved the Report that is herewith transmitted to you, and instructed me to inform you of the fact.

There was transmitted to you in July 1934 an initial report of the activities of the association, and this present report is to be considered as a continuation of these activities. The work is by no means complete, but it is hoped that finances will be secured to carry it on to completion, in order that the items listed in the report may be a governing factor in the complete development of the area.

The carrying into effect of the provisions of the report will meet with difficulties, because the area includes a number of counties, some of them located in Missouri, and some in Illinois. It is hoped to create an authority that will combine the activities of the two States so far as development is concerned; but even if this is done, it will not be entirely adequate, because there are a number of activities that are in the control of the Federal Government. To bring about a satisfactory development, it is essential that all interests be combined in a single organization composed of representatives of the Federal and the two State Governments.

The Federal Government is in control of the Mississippi and the Missouri Rivers. A change in the channel of the Mississippi within this area would be beneficial, and the development of the lake created by the Alton Dam is a problem in which the Federal and the two State Governments are equally interested.

If the rivers are to be developed for traffic, there will probably be ports in both States and these again will be largely influenced by the activities of the Federal Government.

The transportation problem, both railroad and highway, can only be satisfactorily solved by a complete cooperation on the part of the three governments.

The work that the planning association has been able to accomplish has been through the interest and support of your predecessor, the National Planning Board. We believe that your continued interest is essential in completing the plan and is absolutely necessary if the work of developing the region in accordance with the plan is to be of a satisfactory standard of excellence. If you can consistently ask for the creation of a committee consisting of representatives of the three governments, which would investigate and report its findings and recommendations, the work would be greatly accelerated.

With deep appreciation for the interest already displayed by you, and the keen hope that it will be continued, we remain,

Respectfully,

E. J. RUSSELL, *President*

ST. LOUIS REGIONAL PLANNING COMMISSION

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RECOMMENDATIONS OF THE ST. LOUIS REGIONAL PLANNING COMMISSION

1. A governmental agency to be created by interstate compact or by other legislative action to prepare unified plans within the St. Louis Region. It is recommended that this agency comprise five members, two to be appointed by the Governor of Illinois, two by the Governor of Missouri, and one by the President of the United States. All members should serve for at least 5 years and should be residents of the region.

2. The first duty of the regional planning agency would be the preparation and adoption of an official regional plan. This agency should serve as the official planning agency in any portion of the region where there is no local planning commission; in those areas having a local planning commission the agency might have recommendatory powers which could be overruled by a four-fifths vote of the local governmental agency. Legislation should be enacted by the States of Illinois and Missouri with these objectives in view.

3. Ultimately the regional agency might be empowered to exercise either partial or full control over such matters of distinctly regional concern as public health and sanitation, interstate highways, river crossings, unification of transportation terminals, large scale housing projects, and outer parks.

4. Pending the creation of an official regional planning agency, the preliminary regional plan should be perfected in detail at an early date by the present St. Louis Regional Planning Commission, and should thereafter be kept up to date by occasional revision.

5. Legislation enabling the establishment of official local planning agencies is recommended in both the Commonwealths of Illinois and Missouri.

6. Each city and county within the region should establish an official planning commission whose first task would be the preparation and adoption of an official master plan. This master plan should be coordinated with the recommendations of the regional plan.

7. State legislation is recommended in Missouri, similar to the legislation now available in Illinois, which will permit county zoning.

8. Legislation is recommended in both Illinois and Missouri, which will permit planning commissions to regulate and control the subdivision of land in all areas, and to require minimum standards of improvements.

9. Legislation is recommended in Missouri, similar to that now existing in Illinois, which will provide for the establishment of building lines on major streets and on county highways.

10. A bypass thoroughfare accommodating through traffic is needed in Illinois, similar to the bypass (Lindbergh Blvd.) in St. Louis County. These two bypass routes eventually to be connected in the southern portion of the region, via a new bridge across the Mississippi River.

11. The construction of four-lane pavements upon several of the important through routes within the region to be undertaken at an early date. This recommendation applies to such routes as, U. S. No. 66, U. S. No. 40, U. S. No. 50, Illinois No. 3, and Illinois No. 12.

12. The responsible agencies, particularly the State highway departments, might well adopt a program of grade-crossing eliminations in accordance with the recommendations of this report. This program should be carried out as rapidly as funds permit.

13. A regional park authority to be immediately established in the Missouri portion of the region under the present Public Reservation Districts Act (ch. 80 of the Revised Laws of 1919). There should be a similar agency established in the Illinois portion of the region under the provisions of the Park District or the Forest Reservation Act. These agencies would serve until they are supplanted by the regional agency as proposed in recommendation No. 3.

14. School districts to be consolidated in both Illinois and Missouri.

15. Legislation is recommended which will provide for the immediate establishment of a housing authority having jurisdiction over the entire metropolitan district in Missouri. Likewise, a housing authority to be appointed in Madison County similar to the authority now existing in St. Clair County. Each of these two housing authorities would develop a comprehensive plan for slum clearance and rehabilitation of blighted areas. Each would also encourage the enactment of local regulations providing for improved standards of building throughout the entire region.

16. The present program of constructing sewerage and drainage facilities, including facilities for the treatment or disposal of sewage, should be extended throughout much of the metropolitan district.

SIGNIFICANT FACTS

1. The region contains 3,191.5 square miles, approximately all within a 35-mile radius.

2. The region contains the city of St. Louis, all of four counties, and portions of four additional counties.

3. There are 695 taxing authorities in the region, including 90 incorporated communities, 508 school districts, and 97 other agencies of government with taxing power.

4. The metropolitan district contains 839.5 square miles approximately within a 20-mile radius.

5. The population of the region in 1930 was 1,391,384.

6. The population of the metropolitan district in 1930 was 1,296,192.

7. The population of the city of St. Louis in 1930 was 821,960.

8. The population of the region has more than quadrupled since 1860.

9. From 1900 to 1930 the population of the city increased 14.3 percent per decade, the metropolitan district 25.4 percent per decade, the region 22.6 percent per decade.

10. St. Louis County has grown faster than the other counties during the past 50 years. From 1920 to 1930 its rate of growth was 110 percent.

11. Monroe County and those portions of Franklin and Jersey Counties within the region have lost population during each decade from 1910 to 1930.

12. Only 4 incorporated communities out of 49 within the metropolitan district lost population from 1920 to 1930.

13. Of 41 communities in the region lying outside the metropolitan district, 24 lost population from 1920 to 1930.

14. In 1930, 88.9 percent of the population in the metropolitan district lived in incorporated communities.

15. Gross population densities in 1930:

	Persons per square mile
Region	436
Metropolitan district	1,544
City of St. Louis	13,393
Maplewood	8,218
Collinsville	4,769
Huntleigh village	119

16. Composition of population in 1930:

	Percent
Native born	82.5
Foreign born	8.5
Negro	9.0

17. First white men were Marquette and Joliet in 1673.

18. First village was Cahokia, founded in 1699.

19. City of St. Louis established 1764.

20. Region became United States Territory in 1804.

21. The fur trade was of primary importance in the early history of the region.

22. In 1820 several mail routes existed and the travel time from Washington had been reduced from 40 days to 3 weeks.

23. First steamboat arrived in 1817.

24. In 10 years preceding the Civil War, an average of 3,000 steamboats arrived annually.

25. In 1850 first railroad construction westward was undertaken—the Pacific Railroad.

26. First bridge across the Mississippi completed in 1874—Eads Bridge.

27. The Great American Bottoms, 20 miles long and from 3 to 10 miles wide, affords unusual opportunity for industrial development.

28. Highest point in region 900 feet above sea level, or 486.5 feet above 0 on St. Louis gage (top of levee).

29. The region is located on the southern edge of the glacial plain and was covered by the first two ice sheets.

30. The most important natural resources are coal, clay, St. Peter sandstone, and limestone.

31. The seven leading industries in the city of St. Louis, according to value of products, are slaughtering and meat packing, drugs, chemicals and allied products, printing and publishing, boots and shoes, foundry and machine-shop products, bread and other bakery products, and women's clothing.

32. In 1930 the boot and shoe industry employed more wage earners than any other single industry in the City of St. Louis.

33. In 1930 there were 157,669 wage earners in manufacturing in the St. Louis region.

34. The city of St. Louis and Madison County are the only areas in which the number of wage earners in manufacturing increased during the past decade.

35. In 1930 there were 386,083 persons employed in all occupations in the city of St. Louis.

36. A survey of land uses in 78 percent of the area included in the metropolitan district disclosed:

	Acres	*Percent*
All residential uses	32,472.3	7.9
Commercial	4,188.2	1.0
Industrial (railroad included)	15,220.6	3.7
Public and semipublic	17,024.9	4.1
Parks and playgrounds	3,474.0	0.9
Roads, streets, and alleys	24,319.4	5.9
Farms and truck gardens	211,365.7	51.4
Vacant land	103,389.8	25.1
Total area	411,454.9	100.0

37. There were 157,486 children attending elementary schools in the region in 1933.

38. The average enrollment at the schools in the metropolitan district was 316 children per school in 1934, and in the balance of the region it was only 38 children per school.

39. Only 26 of 833 elementary schools in the region in 1934 had sites of standard size of 5 acres.

40. Only 2 of 75 high schools in the region had sites of standard size of 20 acres.

41. There are 8,173 acres of public park area in the region of which 2,886 acres are in the city of St. Louis and 1,100 acres in Lake Park, East St. Louis.

42. There is 0.38 acre of park per 100 persons in the metropolitan district. The commonly accepted standard is 1 acre per 100 persons.

43. There was an estimated total of 274,486 autos within the region in 1932, of which 149,500 were in the city of St. Louis.

44. Since 1920 multiple family living accommodations have exceeded single-house construction only in the city of St. Louis and Clayton.

45. In only 4 of 21 communities studied within the metropolitan district in 1930 were more homes rented than were owned. These were St. Louis, East St. Louis, Venice, and East Alton.

46. In St. Louis 68.2 percent of the homes were rented in 1930, whereas only 21.5 percent were rented in Webster Groves.

47. Of 90 incorporated cities, 15 have zoning ordinances. The zoned communities comprise 12 percent of the area of the metropolitan district.

PERTINENT FACTORS

1. The estimated population of the region in 1960 is 2,000,000.

2. Of this total, 1,890,000 or 94.5 percent will probably be in the metropolitan district.

3. The majority of population increase is expected between the circles of 5 to 20 miles radii.

4. Population has diminished and probably will continue to diminish beyond the 20-mile circle.

5. Heavy industry has developed rapidly in the Great American Bottoms and probably will continue to concentrate in this area.

6. Light industry has developed rapidly in the city of St. Louis and will probably continue to concentrate in this city.

7. Premature subdivision of land into building lots has necessitated unwarranted expenditures for public improvements.

8. Inadequate control of land subdivision has resulted in improper location, inappropriate design, and inferior standards of improvements.

9. There is great lack of park areas and maldistribution of present park land.

10. There are large blighted districts, some slums, and a generally low standard of building regulations throughout much of the urban area which warrant most thorough study and a constructive urban land program.

11. Larger school sites, more neighborhood parks, and an outer park system are outstanding needs.

12. Zoning protection is needed throughout most of the metropolitan district.

13. There is notable deficiency of sanitary sewers and drainage facilities throughout the metropolitan district outside the city of St. Louis.

14. There are an unnecessary number of governmental agencies and taxing authorities, many of which could be eliminated or consolidated with economic advantage and with improvement in administrative efficiency.

SECTION I—INTRODUCTION

Background

Man ever seeks to improve his environment. In a primitive state the control of environment is a matter of individual action. In a collective society this necessitates planning. The factors which affect environment—physical, social, economic—are a matter of common concern. Planning becomes therefore a universal function of government, for the areas of administrative control of environment are national, regional, and local. Thus we have national planning, regional, State, or interstate, and local (city or county) planning.

In this and other countries individuals first attempted to plan their own environment more or less independently. As population increased and the demands on natural resources multiplied, freedom of individual action diminished and social and economic necessity demanded certain planning measures, which measures have steadily increased in number and complexity. Through lack of adequate judgment, ingenuity, foresight, and clearly defined objectives—in short, because of inadequate planning—environment becomes from time to time more or less unsatisfactory in all areas of control. In the United States we are now engaged in a process of reappraisal. The national administration, under the leadership of President Roosevelt, with sanction of the Congress and through the agency of various departments, is clarifying objectives and furnishing guidance. The National Planning Board is encouraging regional and local planning agencies to appraise the status of their environment and the effectiveness of planning guidance. The St. Louis Regional Planning Commission is one of these agencies.

This report contains a preliminary statement of facts and conditions in the St. Louis Region. These are chiefly physical and social in character, but they hold profound economic implications. Here is an area of 3191.5 square miles in which more than a million and a quarter people find their livelihood. This region is a vital part of the national structure. The welfare of its people, like that of other large regional areas, is a matter of national concern.

No comprehensive plan of this region has heretofore been attempted. This preliminary report contains much significant and valuable data with which a more satisfactory environment can be planned. A number of important recommendations are here suggested. Other equally important recommendations and proposals will emerge as the work is carried forward.

Organization of the Survey

The first interest in regional planning in the St. Louis area was manifested in 1926, when a Planning Federation was formed and a report concerning the need of a plan was published. This organization gradually became inactive, however, because of lack of funds.

The establishment of a National Planning Board by President Roosevelt in 1933 with the definite objective of encouraging National, State, and local planning, caused a revival of interest in regional planning in the St. Louis area. The Planning Federation was revived and an application for a grant of funds was made to the National Planning Board on December 5, 1933. The sum of $5,000 was subsequently allocated to this district, to be used within a 6 months' period, on condition that an official planning agency be created.

The governing authorities of the city of St. Louis and of each of the counties within the region were requested to appoint official representatives to a new organization to be known as the "St. Louis Regional Planning Association"; now designated "The St. Louis Regional Planning Commission." These 26 official representatives were organized as a board of directors. Seven officers were elected from this board of directors to serve as an executive commitee.

During the year 1935 resolutions outlining the membership, duties, and authorities of the association were submitted to and adopted by the legislative bodies of the several counties. A set of bylaws has also been adopted by the board of directors. Thus, the Regional Planning Commission is officially organized and its activities are handled on on orderly basis.

After the grant was approved by the National Planning Board, application was made to the Civil Works Administration for planning staffs in the three largest counties of the region and in the city of St. Louis. The first employees were assigned on December 19, 1933, in St. Clair County, and by January 1934 a staff comprising approximately 140 persons was working upon the regional planning project. After the cessation of the Civil Works Administration a much smaller staff, averaging about 25 persons, was provided by the Federal Emergency Relief Administration in Madison and St. Louis Counties, and in the city of St. Louis. With the exception of about 3 months, this staff was continued until September 1935. Since November 1935 a staff of about 20 persons has been provided by the Works Progress Administration in the Missouri portion of the region.

In order to provide funds for miscellaneous expenditures, including supplies and equipment for the use of the staff, special appropriations were made during the year 1934 as follows:

City of St. Louis	$5,000
St. Louis County	1,000
St. Clair County	1,000
Madison County	1,000
Monroe County	75
Franklin County	50
Jefferson County	50
St. Charles County	50

During the year 1935 slightly larger appropriations were made by the several countries, except the city of St. Louis, to provide the necessary supplies and equipment and to direct the work. Consideration is now being given to formulating a financial program which will provide for a permanent staff, together with the necessary funds for supplies and expenses.

Soon after the Commission was organized it was recognized that careful analysis of data and formulation of broad planning recommendations were essential. The board of directors invited a large number of representative citizens and officials from all portions of the region to accept membership upon special committees dealing with each of the principal subjects contained in the program. There was a most generous response to the invitation of the board, with the result that an unusually large amount of voluntary service has been performed by the membership of the committees—a service which would have been impossible to secure in any other way. Through the activities of these committees it has been possible to secure many different viewpoints and ideas. A more widespread interest in regional planning has resulted.

The Function of the Regional Plan

Regional planning has become necessary because of the inability of cities to expand their boundaries as rapidly as new growth has taken place. Most large cities are now surrounded by a group of small cities and towns of varying size. In recent years the rapid development and use of the automobile has caused population to spread over considerable areas, often into territory as yet entirely unincorporated. As new growth has taken place on the outskirts of cities it is not uncommon to find a corresponding loss of population in the older central areas of the parent city. Thus the large American city is undergoing a fundamental change in character and form. As yet no single governmental agency has arisen to cope with the tremendous new problems which inevitably must accompany this new form of city growth. Regional planning is consequently a preliminary attempt to analyze what is taking place, to discover new trends, and to suggest ultimate controls as well as to meet immediate problems which must be dealt with by existing agencies of government.

In recent years the technique of city planning has been developed whereby growth in any self-contained city can be so directed as to bring about a certain degree of unity. In any metropolitan area, where a multiplicity of political units exists, it is inevitable that there will be unbalanced growth. Consideration of the most appropriate development of the region as a complete and well-balanced unified community is the function of a regional plan.

Until quite recently our larger cities have grown so rapidly that their continued growth has been taken as a matter of course. Very few have even considered the possibility or the probability of any marked limitation of new growth. Now, however, it is evident that the extent of new growth is very limited indeed. If our regional areas are to achieve even a moderate degree of unity and balanced development, there must be some definite determination of the character and extent of the future region. Three principal determinations should be made, namely:

1. Distribution and density of future population.
2. Character of physical improvements that are most needed and that can be financed.
3. Planning legislation and agencies needed to insure proper control of development both in existing communities and in new areas.

These three determinations will establish a frame of reference as to the character and extent of the future region, and as to the relative validity of particular public improvements that may be proposed from time to time. Within the established frame of reference detailed planning of various degrees of exactitude can be developed for such things as streets and highways, transportation, zoning, parks, public-utility services, and the like. Thus regional planning, like city planning, will serve to prevent mistakes, encourage improved standards of development, and promote order, convenience, and economy.

Boundaries

The boundaries of any regional area are difficult of exact determination. Many factors were considered in determining the boundaries of the St. Louis region. Among the more important of these were physical characteristics, extent of the present urbanized area, transportation, utility services, recreational area, and political boundaries.

Figure 1, Boundaries of Public Services, graphically illustrates some of these factors and considerations. On it are plotted the boundaries of several public

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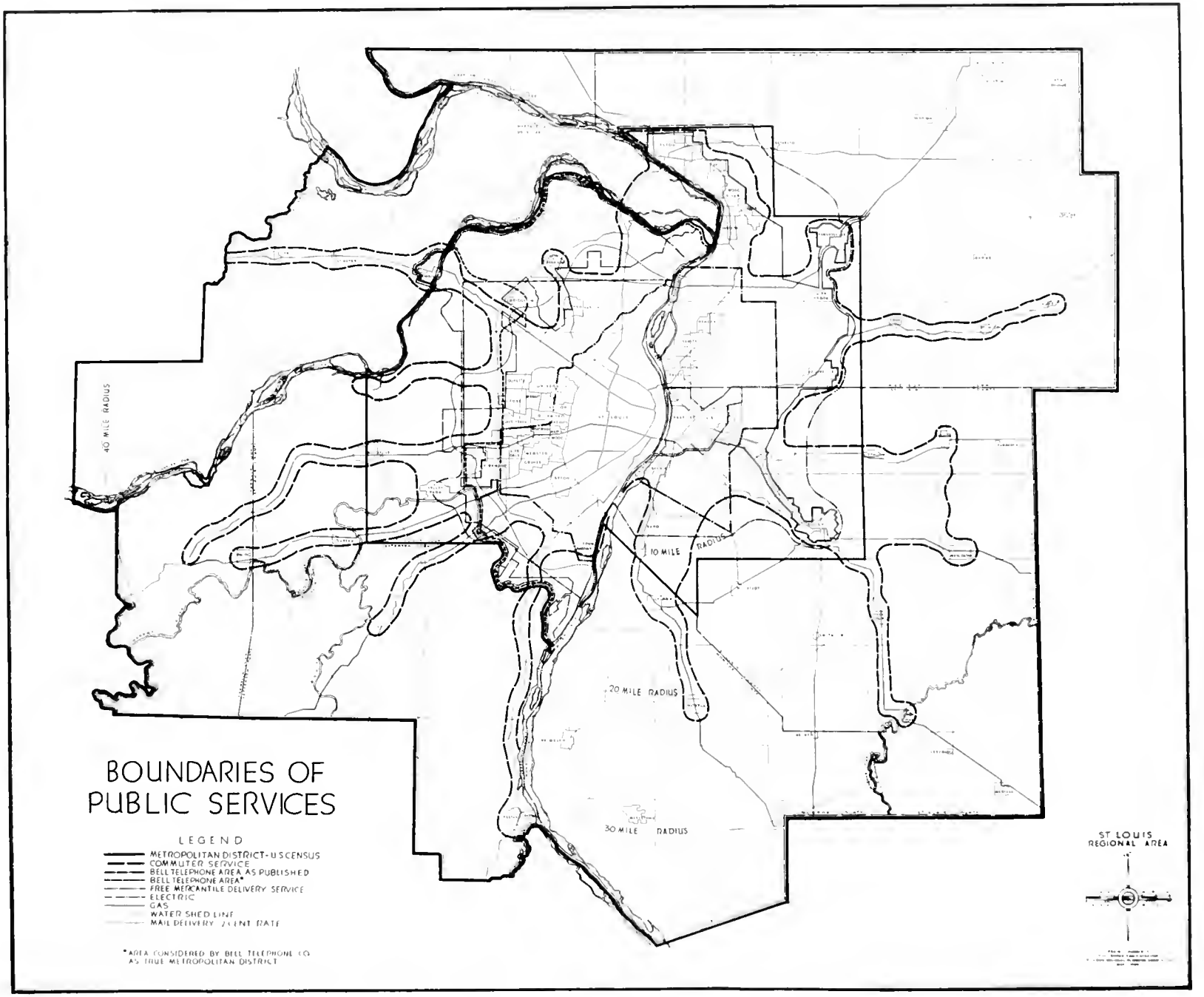

BOUNDARIES OF
PUBLIC SERVICES
LEGEND
METROPOLITAN DISTRICT-U.S.CENSUS
COMMUTER SERVICE
BELL TELEPHONE AREA AS PUBLISHED
BELL TELEPHONE AREA*
FREE MERCANTILE DELIVERY SERVICE
ELECTRIC
GAS
WATER SHED LINE
MAIL DELIVERY 2¢ ENT RATE
*AREA CONSIDERED BY BELL TELEPHONE CO. AS TRUE METROPOLITAN DISTRICT
40 MILE RADIUS
10 MILE RADIUS
20 MILE RADIUS
30 MILE RADIUS
ST LOUIS
REGIONAL AREA

FIGURE 1

services which provide the more essential facilities and conveniences for the residents. The majority of these services such as water, electricity, commuter service, and free delivery by department stores, ignore political boundaries and serve all persons as if they constituted a single large community. The persons within the several boundaries should naturally have a common interest in the improvements and welfare of the area. Public utilities usually keep abreast of population growth and distribution so that the several different boundaries shown on the map more or less determine the extent of the urban portion of the region.

The commuter service of the railroads and buses extends farther from the center than any of the other boundaries. The extent of this service indicates that a large number of residents in the outlying towns have a direct interest in the central city. The boundaries of services other than commutation are generally concentrated within a radius varying between 10 and 15 miles from the central business district of St. Louis. The marked coincidence of these lines clearly indicates the extent of the urbanized area.

It is evident that there are two major regions. The first of these is the area that is primarily urbanized and in which the problems of growth and development are identical. The second is a much larger area, in which the first is included, extending to districts in which rural rather than urban characteristics prevail, but in which the people have direct contact with the central city. Throughout this report the first area is referred to as the metropolitan district and the second area is referred to as the St. Louis Region.

The boundary of the metropolitan district is similar to that established by the United States Census Bureau, the only variation being to the southeast, where the city of Columbia, Ill., is included. A study of the accompanying map reveals that all of the public-service boundaries, with the exception of the commuter service, are well within the metropolitan district. Not only is all urbanized area included, but adequate space is available for its future expansion. Practically all of the metropolitan district is included within a 20-mile radius from the central business district. The metropolitan district comprises 839.5 square miles.

The boundary of the region has been determined by the boundaries of the different political units. In Illinois three entire counties are included, namely, Monroe, St. Clair, and Madison, and two townships in Jersey County. On the west side of the Mississippi River it includes all of St. Louis County and portions of St. Charles, Franklin, and Jefferson Counties. In the three latter counties the boundary is located along township lines. Practically all of the region is included within a 35-mile radius from the central business district, although small sections are about 40 miles from this center. The entire region comprises 3,191.5 square miles.

Since the metropolitan district includes all urbanized areas, it will present the more complex planning problems. Detailed studies of the population growth and distribution, land uses, and the location and extent of the necessary physical elements, are essential to insure the proper development and organization of the metropolitan district. In the outlying portions of the region the problem is less complex; therefore the planning studies are primarily concerned with highway and transportation facilities and recreational areas. The proper utilization of land in the outlying area is extremely important, however, and study must be given to preserving the best farming sections and to adapting the poorer farming or submarginal land to the best economic use, such as forests, game preserves, and other forms of conservation.

SECTION II
HISTORY AND RESOURCES OF THE REGION

History

The St. Louis regional area has a varied historical background due to its position astride the Mississippi River and in the heart of the old territory of Louisiana. The three recognized processes of territorial expansion, discovery, conquest, and purchase, each had a part in its final establishment.

Hernando de Soto, by his discovery of the Mississippi River in 1541, may be said to have established the first national claim, which was never asserted by Spain. In 1682, Robert Cavelier, Sieur de la Salle, took formal possession of the entire Mississippi Valley for France, naming the territory Louisiana.

As early as the beginning of the eighteenth century a few settlers, mostly French, had established themselves along the Mississippi River. The village of Cahokia in Illinois, opposite the future site of St. Louis, became a center of pioneer settlement in 1699. Kaskaskia, destined to become at own of great importance during the earlier period of western development, was established in 1700 at a point on the east bank of the Mississippi, a few miles south of the present region.

In 1719 John Law formed in France his *Company of the West*. The "Mississippi bubble" burst in time, but not until much had been done by the agents of the company toward establishing colonies in Louisiana, and opening up the country to private enterprise.

England and France early recognized the strategic importance of Illinois as the key to dominion in North America, and the French rapidly fortified the region to make their position secure. Fort Chartres, a few miles above Kaskaskia, was established in 1718, and shortly thereafter Kaskaskia became the seat of government of Upper Louisiana. The city of New Orleans was founded in 1718, and became the capital of Louisiana in 1722.

A fairly steady drift of population into the regional area continued through the succeeding years, and by the middle of the eighteenth century, the fur trade was flourishing, lead mines were in operation, and a brisk export of hides, tallow, furs, and lead was under way, principally with France.

In 1762 France, then at war with England, in order to avoid loss of Louisiana to the enemy, ceded to Spain by secret treaty the portion of Louisiana west of the Mississippi River. In 1763 the part east of the river, except the city of New Orleans, was transferred by France to England as a part of the price of the peace.

St. Louis was founded as a trading post by Pierre Laclede Liguest in 1764. Laclede, unaware of the transfer of western Louisiana to Spain 2 years before, named the new town after his king, Louis XV of France.

The English occupancy of eastern Louisiana occurred in 1765 at which time the French commandant at Fort Chartres removed to St. Louis and assumed civil control at the request of the citizens. He was relieved of this charge in 1770 by the arrival of the first of the Spanish Lieutenant Governors of western Louisiana, 8 years after the territorial transfer had been effected.

The American Revolution brought about a readjustment of the national domain in the St. Louis region. The Mississippi River was fixed by the treaty of 1783 as the western boundary of the United States as far south as the thirty-first parallel of latitude, about 90 miles north of the city of New Orleans. In 1800 Spain, forced by the first Napoleon, retroceded western Louisiana to France; Napoleon, through the Louisiana Purchase, sold the territory to the United States in 1803. In 1804 the entire St. Louis region became a part of the United States. Illinois became a State in 1818 and Missouri in 1821.

The years following the Louisiana Purchase saw a veritable flood of immigration into the western country, and the St. Louis district, because of its favorable position in relation to the great inland waterways, enjoyed increasing prosperity as a trade center. Many of the pioneers of American, German, Swiss, and French blood remained in the St. Louis region and many settlements were formed and towns established on both sides of the Mississippi. East St. Louis, the second largest city within the regional area, developed from Illinoistown, first platted in 1818. Of tremendous import in this period of development was the memorable journey of Lewis and Clark in 1803–06, which first revealed to the world the extent and marvelous richness of the great Northwest.

The earlier travel in the western country was by way of the rivers, but the arrival of the settlers and the establishment of the early towns, soon resulted in the development of four main highways through the Illinois country, converging at a point on the Mississippi River opposite St. Louis.

The first steamboat to navigate the Mississippi River above the mouth of the Ohio reached St. Louis in 1817,

and the gold rush of 1849 marked the beginning of the "golden age" of steamboating.

By the close of the Civil War the doom of the steamboat had been sealed by the coming of the railroad. Various attempts to meet the competition were unsuccessful and river travel gradually declined. While a few early local railroads had been built in Missouri and Illinois, construction of the first transcontinental railroad, the Pacific, began on July 4, 1850.

Railroad activity in succeeding years resulted in the St. Louis Region becoming one of the greatest railroad centers in the United States, and ultimately brought about the construction of the Eads Bridge across the Mississippi River at St. Louis. Later growth has resulted in the construction of six additional bridges. Two of these additional bridges are used exclusively for railroad purposes, two are used for both railroad and vehicular traffic, and two for vehicular traffic only.

With the industrial progress accompanying railroad expansion and the later advent of the automobile and the hard road, the St. Louis Region has grown steadily in wealth and influence, ranking today as the eighth largest metropolitan community in the United States.

Topographical and Geological Characteristics

The topographical features of the St. Louis Region may be classified as broad valleys, narrow valleys, and uplands. Chief of the first group are the river valleys of the Mississippi, the Missouri, and the Meramec which, in addition to their width, are distinctive in that the streams flow over deep beds of alluvium constituting extensive flood plains limited by abrupt

FIGURE 2.—The gently rolling terrain of St. Louis County is particularly desirable for the development of large estates.

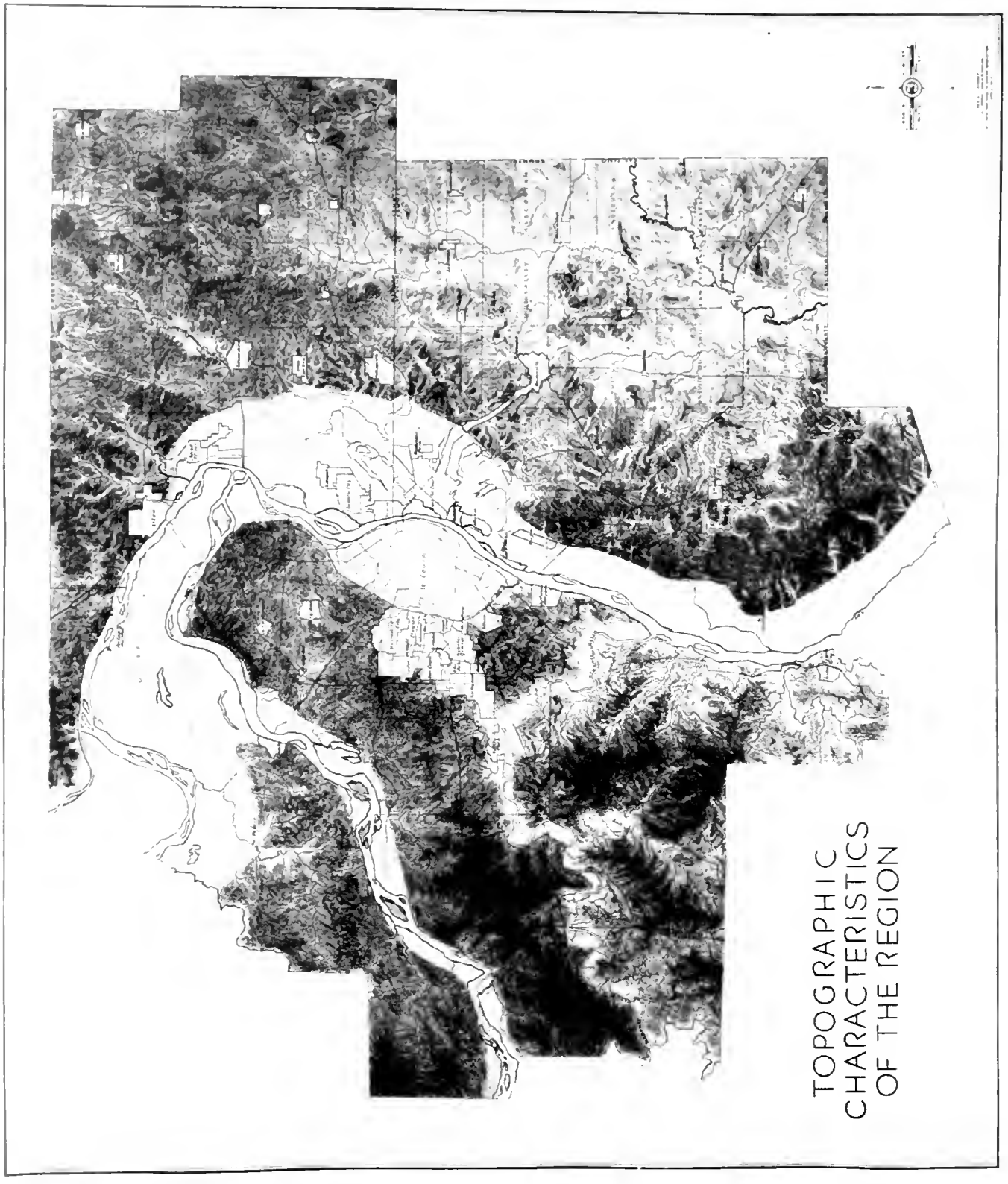


FIGURE 3

bluffs. The Mississippi trough is located near the center of the region and is from 3 to 10 miles in width. The Missouri trough, 3 miles in width, extends westwardly from that of the Mississippi through the northwestern portion of the region. Both of these valleys are flanked by steep limestone bluffs from 150 to 200 feet in height, and much of the area is subject to overflow.

The Meramec and Big Rivers, which meander through the southwestern section of the area, are much smaller than either the Mississippi or the Missouri, but their troughs have the same characteristics.

A charactristic feature of the regional landscape is the general level of the uplands which were part of the great plain that formerly existed over the region.

The surface of these uplands attains elevations of 800 feet above sea level on the bluffs above Grafton in Jersey County, 700 feet on the divide between the Missouri and Meramec watersheds near Stratmann, in St. Louis County, and 900 feet among the hills to the southwest. There is a gradual decrease in elevation toward the eastward from these higher levels, the remnants of the uplands in St. Louis and in the neighborhood of Belleville in Illinois reaching an elevation of not more than 550 feet. Eastward from the Belleville district the slope is not well defined. Nowhere within the region are there any considerable unbroken areas of upland.

The primary value of the flood plain lies in its adaptability to the location of railroad lines and terminal facilities, large industrial plants, and farms. The area west and northwest of the city of St. Louis is rolling, with the hills becoming more sharply defined as the Missouri River bluffs are approached. This area is well adapted for urbanization. Beyond the Missouri River the terrain is hilly and rolling to the limits of the region.

The hill country becomes more rugged toward the south and the southwest. Much of it is wooded and the hills are interspersed with areas of rolling prairie. Many summer homes are found in this area and opportunities abount for the development of recreational facilities.

In the southeastern portion of the region in Monroe County, Ill., there is hilly country of considerable elevation with broad valleys and rolling uplands. Farther north are slightly rolling expanses and almost level prairie, through which meander the Kaskaskia River and its northerly tributaries. As the northern portion of the region is approached the topography becomes more rugged, and is cut by a number of streams flowing toward the Mississippi plain. Much of the prairie area is valuable for agricultural purposes, while the bluff section possesses excellent qualities for desirable residential districts.

Geology

The underlying geologic structure is entirely sedimentary to a depth imposed by the upper surfaces of the archean porphyry and granite.

First to be encountered, and the newest in point of geologic age, is the surface alluvium, still being deposited in the flood plains of the larger rivers and along the courses of the smaller streams in Illinois. It forms the fertile "river bottoms", a descriptive term of loose application.

Next older than the alluvium is the loess, which covers the uplands to a depth varying from a few feet to 50 feet. It is used in the manufacture of common brick. At the bottom of the deposit there is generally an admixture of gravel and clay of the ice period.

Beneath the loess in the glacial drift, composed mainly of gravel and boulders mixed with clay. Distinct from the glacial drift is the Lafayette gravel, found in the western part of the area. It is used in making concrete and in road construction.

Below the glacial drift, and covering half the area of the region, are the beds of solid rock composing the important Coal Measures of the Carboniferous system. Their principal constituents are shale, clay, sandstone, and limestone, with a relatively small admixture of coal. All of the beds together have a thickness of about 100 feet on the Missouri side of the area, which increases to 400 feet on the Illinois side. The shales and clays are used in the manufacture of fire brick, paving brick, tile, sewer pipe, gas retorts, and terra cotta. Certain of the shale and limestone deposits are combined in the manufacture of cement. A very important element is the extensive deposit of fire clay found in southwestern St. Louis and in St. Louis County, which serves as a basis for an important regional industry.

Bituminous coal is found in seams 1 to 4 feet thick in St. Louis and in St. Louis County. In Illinois, the western margin of the Eastern Interior coal basin in Kentucky, Indiana, and Illinois extends into and underlies the greater portion of the included area. Mining of the Illinois coal constitutes a great industry. Its output is the main coal supply of the region, and the mines are so economically operated that the local coal market is the cheapest in the United States.

Next below the "Coal Measures" are beds of limestone used for macadam, foundation stone, concrete aggregate, and road building. One, the Trenton, carries a small, rich oil pool located at Dupo in St. Clair County in Illinois. Oil traces and gas have been

located in well borings in western St. Louis. Water from the Trenton has a high content of sulphur and other mineral salts, making it a valuable mineral water.

The St. Peter sandstone which underlies the limestone strata is composed of well-rounded grains of quartz, loosely cemented. It is water-bearing, and supplies driven wells. Its outcrops are mined for the extensive glass manufacture of the region and for the production of silica brick.

These extensive natural resources insure the continued development of a great regional metropolis.

SECTION III
ORGANIZATION OF THE REGION—PRESENT AND FUTURE

In the St. Louis region 1,391,384 persons (1930 United States census) are now distributed in a certain pattern which is partly the result of the physiographic characteristics of the site and partly the result of individual and collective efforts to control environment. Just as water seeks its level so will man, in the eternal quest for improved environment, cause readjustments in the form and character of cities. What is the most desirable future distribution of population and arrangement of land uses within the St. Louis region?

Population

Past trends and existing conditions must be recognized in preparing estimates of future population. A discussion of past population growth and distribution within the St. Louis Region follows.

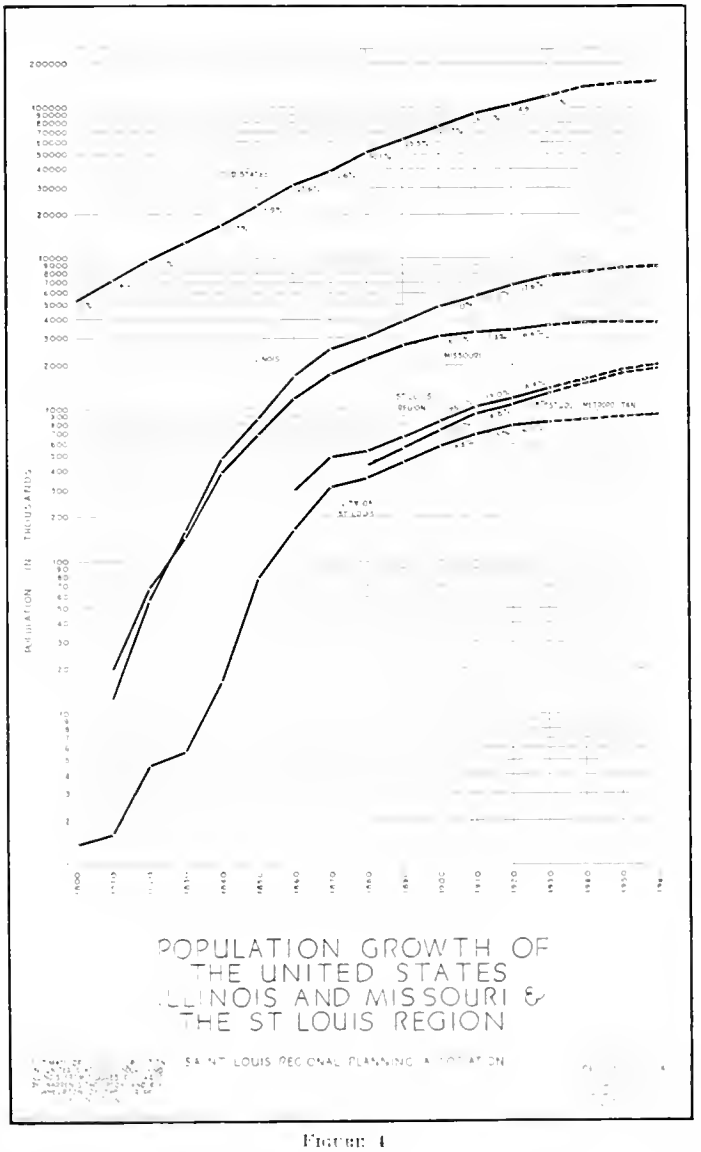


FIGURE 4

Past Population Growth

Like other metropolitan regions, the St. Louis area has experienced a rapid increase in population. Since 1860 the population has more than quadrupled. Figure 4 affords a comparision of this past growth in different portions of the region with that of the two States containing the region, as well as a comparison with the growth of the entire country. The estimated growth during the next 30 years is also indicated.

Both the region and the metropolitan district have been growing at a faster rate than either Illinois or Missouri, and, with the exception of the decade between 1910 and 1920, the two areas have grown at a faster rate than the United States. The rate of growth has been fairly consistent during the past 50 years, but it is evident that the rate has gradually decreased until a point of stabilization is being approached.

During the past 30 years the city has been growing at a much slower rate than the metropolitan or regional areas. The average rate of increase for this period was 14.3 percent in St. Louis, 22.6 percent in the region and 25.4 percent in the metropolitan district. The rapid rate of increase within the two latter areas emphasizes the necessity for planning. The many problems which accompany a concentration of population are no longer centered within the central city, but instead are spreading over a large area. At the same time the entire region must be considered as a unit, so that one portion of it will not grow at the

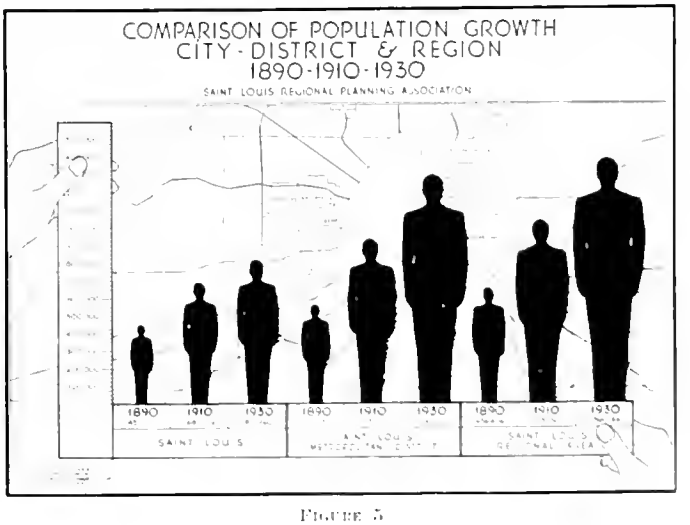


FIGURE 5

expense of another. Figure 5 indicates graphically the rate of growth within the city, the metropolitan district and the region.

A further study of the past population trends in smaller subdivisions of the region is contained on the chart showing the population growth in each county fig. 6). The estimated future population in each county is also indicated. The rate of growth in each county has not been as consistent as that of the region as a whole. During the past 50 years St. Louis County has grown faster than any of the others, its population having increased during the past decade at the unusually high rate of 140 percent. This is slightly more than three times greater than that of the next fastest growing county, Madison. St. Clair County experienced a relatively consistent growth, although less rapid than that of St. Louis and Madison Counties.

Three of the outlying counties of the region, Monroe, Franklin, and Jersey, have lost population since

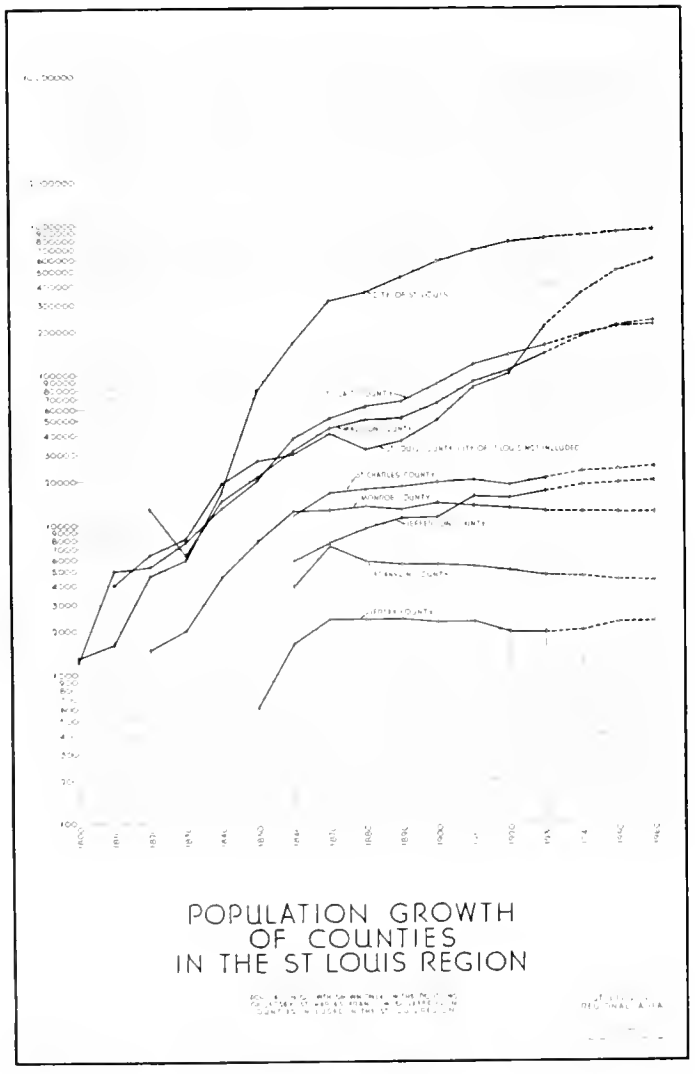


FIGURE 6

1910. One outlying county, St. Charles, lost population between 1910 and 1920, but experienced a gain in the following decade. Table I accompanying shows the amount and the rate of population growth in the different counties. The large increase within certain counties, such as St. Louis and Madison, indicates that there planning must deal with problems resulting from concentration of population, whereas in the counties that are losing population planning must deal with the economic problems of land use and cost of government.

TABLE I.—*Population and growth of counties—St. Louis regional area, 1910 to 1930*

County	Population, 1910	Population, 1920	Percent. increase or decrease	Population, 1930	Percent. increase or decrease
Jersey [1]	2,281	1,940	−14.9	1,929	(2)
Madison	87,847	106,895	19.0	143,830	34.6
Monroe	13,508	12,839	−4.9	12,369	−3.7
St. Clair	119,870	136,520	13.9	157,775	15.6
Franklin [1]	5,295	4,963	−6.0	4,621	−7.0
Jefferson [1]	15,255	15,113	(2)	16,854	11.5
St. Charles [1]	20,000	18,546	−7.3	20,453	10.5
St. Louis	82,417	100,737	22.2	211,593	110.0
St. Louis (city)	687,029	772,897	12.5	821,960	6.3

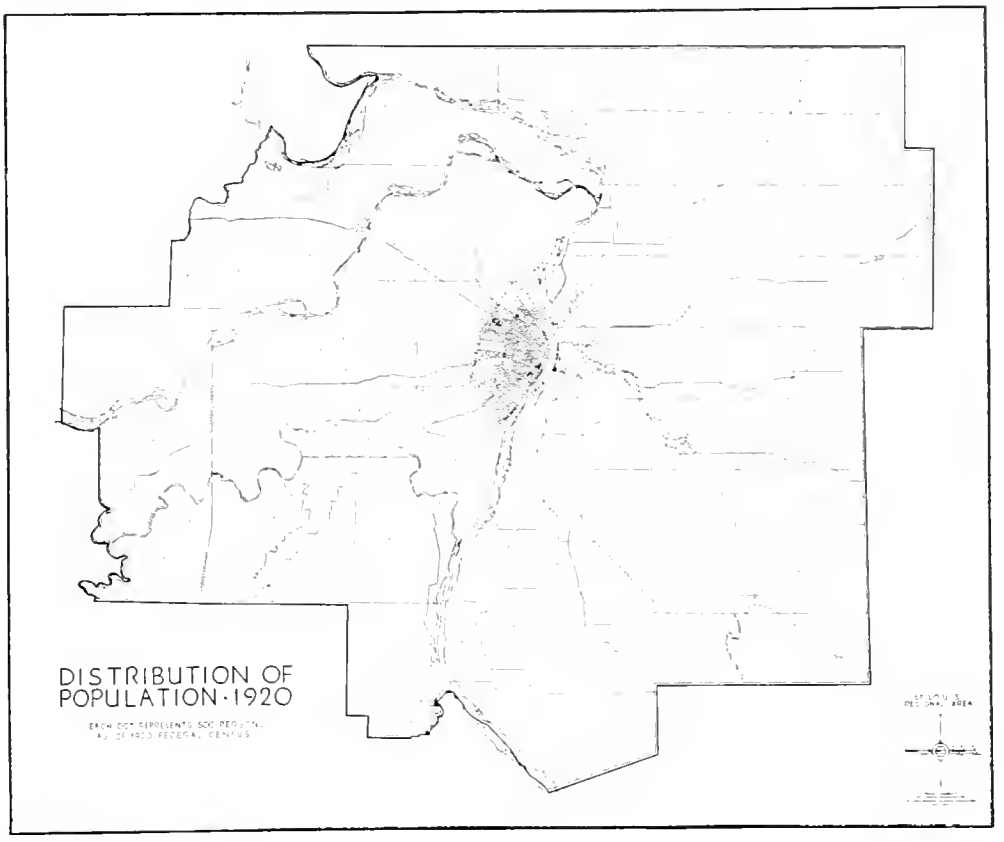
[1] Indicates only that portion of the county included in region.
[2] Indicates less than 1 percent.
— Indicates decrease. All other percentages are increases.

Source of data: United States census 1910, 1920, 1930, vols. 1, 2, and 3.

Data regarding the population growth within the different incorporated communities of the region is given in table II. Of the 49 incorporated communities within the metropolitan district, only 4 lost population during the past decade, while 8 of them experienced an increase of more than 100 percent. The highest average rate of increase is found in the suburban communities west of the city of St. Louis, although several of the towns in both St. Clair and Madison Counties experienced a rapid growth. In the balance of the region the urban growth has been much less rapid, and 24 of the 41 incorporated communities lost population in the last decade. Apparently population is moving from the outer portions of the region to the suburban towns in the metropolitan district. It was found that 88.9 percent of the population within the metropolitan area lived in incorporated communities in 1930. There are also many persons living in typical urban areas, such as Wellston and Overland, which have not been incorporated.

Distribution of Population

The distribution of population within the St. Louis Region during each of the past two decades is shown in figure 7. The centrifugal mass movement of pop-


DISTRIBUTION OF
POPULATION·1920

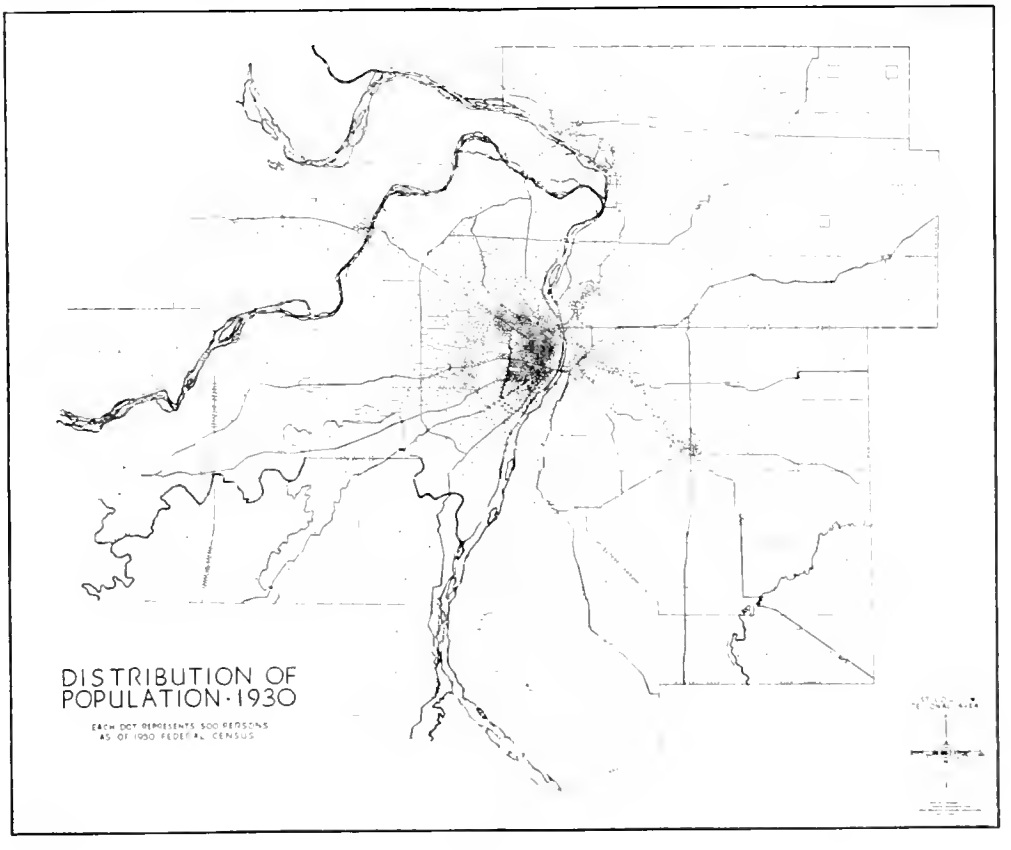

DISTRIBUTION OF
POPULATION·1930
EACH DOT REPRESENTS 500 PERSONS
AS OF 1930 FEDERAL CENSUS

FIGURE 7

ulation is evident from these plans. There has been only a very slight change in population in the outlying portions of the region. It is apparent that the more significant planning problems are concentrated within the metropolitan district.

TABLE 11. *Population and growth of incorporated communities—St. Louis regional area, 1910 to 1930*

ST. LOUIS METROPOLITAN DISTRICT

Community	Population, 1910	Population, 1920	Percent, increase or decrease	Population, 1930	Percent, increase or decrease
MADISON COUNTY					
Alton	17,528	21,682	40.80	30,151	22.15
Bethalto	447	471	5.36	687	45.85
Collinsville	7,478	9,753	30.42	9,235	−5.30
Edwardsville	5,014	5,336	6.10	6,235	16.85
East Alton	584	1,669	185.78	4,502	169.74
Granite City	9,903	14,757	49.00	25,130	70.30
Glenn Carbon	1,220	1,323	8.11	1,310	1.30
Hartford	(1)	(1)	(1)	1,566	(1)
Maryville	729	836	14.67	602	−28.00
Madison	5,046	4,966	−1.58	7,661	54.26
Nameoki	(1)	1,181	(1)	2,257	91.10
Roxana	(1)	(1)	(1)	1,139	(1)
Venice	3,718	3,895	4.76	5,362	37.66
Wood River	84	3,476	4,038.10	8,136	134.07
MONROE COUNTY					
Columbia	2,076	1,592	−23.30	1,791	12.50
ST. CLAIR COUNTY					
Belleville	21,122	24,823	17.52	28,425	14.51
Brooklyn	1,569	1,685	7.39	2,063	22.43
Caseyville	613	675	10.10	743	10.08
Cahokia	(1)	(1)	(1)	286	(1)
Dupo	433	1,393	221.70	2,082	49.46
East St. Louis	58,547	66,767	14.04	74,347	11.35
East Carondelet	212	311	11.98	378	21.54
Fairmont City	(1)	1,056	(1)	1,827	73.00
Monsanto	(1)	(1)	(1)	204	(1)
National City	253	426	68.38	267	−37.32
Swansea	889	1,048	17.88	1,201	14.11
Washington Park	(1)	1,516	(1)	3,837	153.10
ST. CHARLES COUNTY					
St. Charles	9,437	8,503	−9.90	10,491	23.40
ST. LOUIS COUNTY					
Brentwood	(1)	(1)	(1)	2,819	(1)
Bridgeton	129	121	−6.20	152	25.61
Clayton	(1)	3,028	(1)	9,613	217.47
Deer Creek	(1)	(1)	(1)	192	(1)
Fenton	172	146	−15.12	237	62.33
Ferguson	1,658	1,871	13.02	3,798	102.66
Glendale	(1)	749	(1)	1,451	93.72
Huntleigh	(1)	(1)	(1)	79	(1)
Kirkwood	4,171	4,422	6.01	9,169	107.35
Ladue	(1)	(1)	(1)	780	(1)
McKnight	(1)	(1)	(1)	441	(1)
Maplewood	4,976	7,431	49.34	12,657	70.33
Oakland	(1)	(1)	(1)	557	(1)
Richmond Height	(1)	2,136	(1)	9,150	328.37
Rock Hill	(1)	(1)	(1)	1,309	(1)
Shrewsbury	(1)	845	(1)	1,525	80.47
St. Ferdinand	765	682	−10.85	1,039	52.35
University City	2,417	6,792	181.00	25,809	280.00
Valley Park	(1)	899	(1)	1,772	97.10
Webster Groves	7,080	9,174	33.81	16,487	74.02
St. Louis city	687,029	772,897	12.50	821,960	6.35

TABLE 11. *Population and growth of incorporated communities—St. Louis regional area, 1910 to 1930* Continued

BALANCE OF REGION

Community	Population, 1910	Population, 1920	Percent, increase or decrease	Population, 1930	Percent, increase or decrease
JERSEY COUNTY					
Elsah	267	167	−37.45	137	−17.96
Grafton	1,116	949	−14.96	1,026	8.11
MADISON COUNTY					
Alhambra	368	354	−3.80	355	.28
Grantfork	112	222	98.20	80	−63.96
Highland	2,675	2,902	8.75	3,319	14.09
Livingston	1,092	1,365	25.00	1,447	6.00
Marine	685	676	−1.31	537	−2.06
Millerburg	81	140	72.84	27	−80.70
New Douglas	499	390	−21.84	335	−14.10
St. Jacobs	534	485	−9.18	451	−7.01
Troy	1,447	1,312	−9.33	1,122	−14.50
Williamson	648	805	24.20	518	−35.65
Worden	1,082	1,252	15.70	1,111	−11.26
MONROE COUNTY					
Hicker	187	159	−14.97	177	11.30
Mayestown	284	270	−4.90	187	−30.74
Renault	241	209	−13.28	188	−10.05
Valmeyer	(1)	406	(1)	528	30.00
Waterloo	2,091	1,930	−7.70	2,239	16.00
ST. CLAIR COUNTY					
Fayetteville	228	174	−23.70	148	−14.94
Freeburg	1,397	1,594	14.10	1,434	−10.04
Lenzburg	463	502	8.42	443	−11.75
Lebanon	1,907	1,883	−1.25	1,828	−2.92
Marissa	2,001	1,900	−5.18	1,630	−14.21
Mascoutah	2,081	2,343	12.60	2,311	−1.37
Millstadt	1,140	907	−20.43	1,014	11.80
New Athens	1,131	1,406	24.30	1,269	−9.74
O'Fallon	2,018	2,379	17.89	2,373	−.25
Old Marissa	311	232	−26.11	220	−5.17
Summerfield	337	277	−17.80	279	.72
Shiloh	395	381	−3.54	384	.79
Smithton	380	357	−6.05	361	1.12
St. Libory	328	289	−11.90	269	−6.90
FRANKLIN COUNTY					
Pacific	1,418	1,275	−10.08	1,156	14.20
JEFFERSON COUNTY					
Crystal City	(1)	2,243	(1)	3,057	36.30
Festus	2,556	3,348	30.99	4,085	22.00
Kimmswick	235	141	−40.00	172	22.00
Pevely	(1)	167	(1)	274	64.07
ST. CHARLES COUNTY					
Augusta	267	308	15.36	232	−24.68
O'Fallon	(1)	588	(1)	594	1.02
Portage Des Sioux	218	283	29.80	248	−12.37
St. Peters	269	358	33.09	248	−30.73

[1] Indicates no information available.

− Indicates decrease. All other percentages are increases.

Source of data: United States census 1910, 1920, 1930, vols. 1, 2, and 3.

In 1910 the population was concentrated in St. Louis and East St. Louis and in a few suburban towns served by railroad or electric lines. During the succeeding

decades two general types of growth are indicated. West of the City of St. Louis there has been a more even spread of population with a tendency toward a circular development. This does not imply that all vacant area has been completely absorbed, for there are numerous undeveloped areas of varying size within the general circle of development. The general characteristics are quite pronounced, however, when contrasted with the type of growth found on the Illinois side of the river. Here the growth has been more of the "finger" or "shoestring" type, and is primarily found in narrow strips between East St. Louis and the towns of Alton, Belleville, and Columbia. Little tendency is noted for the population to absorb the intervening areas. Low swampy areas and the location of railroads, with the adjacent industrial development, are among the important factors that have brought about this type of development.

Density of Population

The crowding of a large number of persons within certain limited areas is one of the major defects of the average large city. The health of the inhabitants is seriously menaced, land values are unbalanced, and public facilities such as schools, streets, and sewers are often overburdened. Any metropolitan region contains adequate area to eliminate any need of overcrowding.

Figure 8 shows the gross population densities within each township of the region during each of the past two decades. The majority of the changes in density have occurred within the area immediately adjacent to the City of St. Louis, with the change in Central Township immediately to the west of St. Louis most pronounced. Few changes are noted in any of the outlying townships. In 1930 the average gross density within the metropolitan district was 1,544 persons per square mile, while the average for the entire region was 136 persons per square mile.

A study was also made of the gross density within the incorporated areas for the year 1930. Of the 49 towns within the metropolitan district, 35 had a gross density of 1,000 or more persons per square mile, whereas 21 of the 42 towns in the balance of the region had a similar density. The highest density was naturally found within the city of St. Louis, being 13,393.5 persons per square mile, while the densities in the other communities ranged from 119.7 in Huntleigh Village to 8,218.8 in Maplewood.

The studies of the St. Louis City Plan Commission reveal interesting data regarding changes of population densities within the central city. During the past three decades the older residential areas, particularly those surrounding the central business district, have been losing population. While the western sections of the city have absorbed some of this shifting population, a number of people have apparently moved beyond the city limits. Between 1900 and 1930 there was a population loss of 91,600 persons in the area between the Mississippi River and Jefferson Avenue. Summaries in the tables showing population growth in the counties and incorporated communities, indicate two general movements of population within the St. Louis region—both movements being toward a common location. One movement is from the central sections of St. Louis to the urban communities surrounding the central city. The second trend is from the outlying counties and incorporated communities to these same urban communities surrounding St. Louis. Physical improvements and regulatory measures are necessary to serve this shifting population and to maintain a proper balance between the different sections. Otherwise large districts may eventually be almost depopulated, yet contain extensive improvements and utilities. Such a procedure is economically unsound and presages financial disaster.

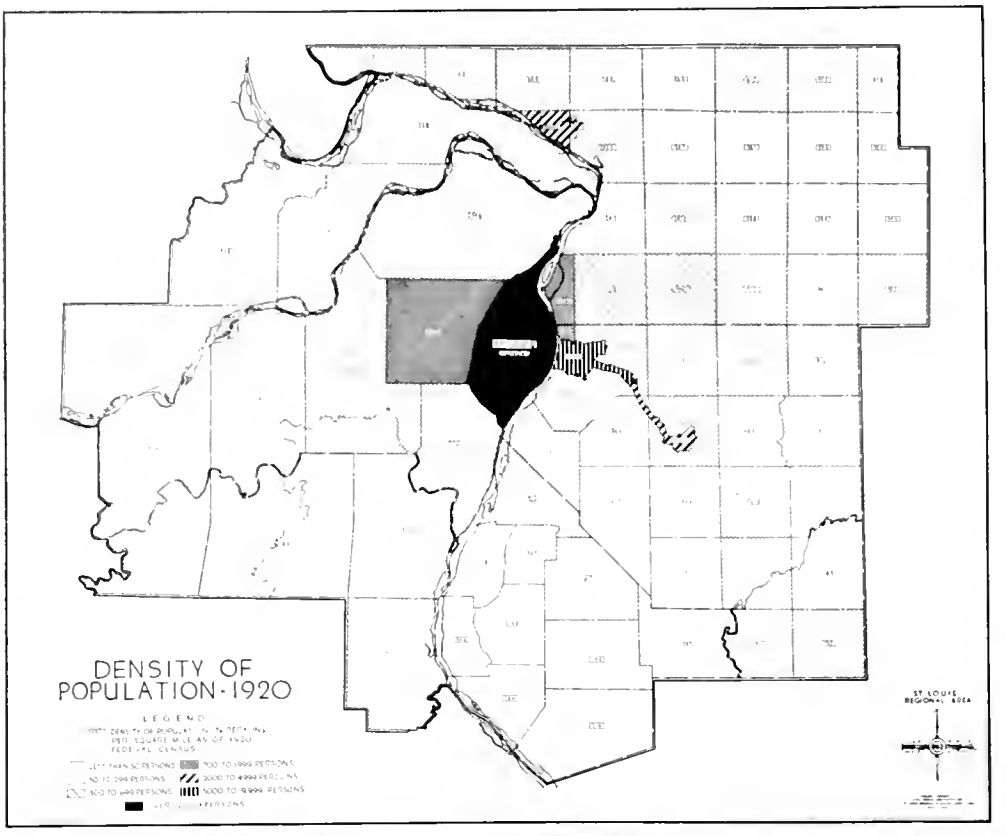
Nativity and Age Characteristics

The native population predominates in all portions of the region and represents 82.5 percent of the total. Foreign-born persons comprise 8.5 percent of the total, while the Negro population comprises 9.0 percent. The largest percentage of foreign-born and Negro persons is found in the City of St. Louis where these two groups comprise 21.3 percent of the city's population. The foreign-born and Negro population in Madison and St. Clair Counties is primarily concentrated in the industrial towns. In Madison it comprises 31.8 percent of the total population, in Venice 33.1 percent, in East St. Louis 21.8 percent, and in the small town of Brooklyn 96.8 percent.

Only minor variations are found in the age classifications within different areas of the region. The large number of children and youths is, however, of special interest, 42.2 percent of the total population being less than 25 years of age.

Future Population and Growth

The population anticipated within the St. Louis Region, metropolitan district, and city during the next 30 years is indicated by the accompanying table. These estimates were prepared by the population committee, from studies of National, State, and local population trends.


DENSITY OF
POPULATION-1920
LEGEND
ST LOUIS
REGIONAL AREA

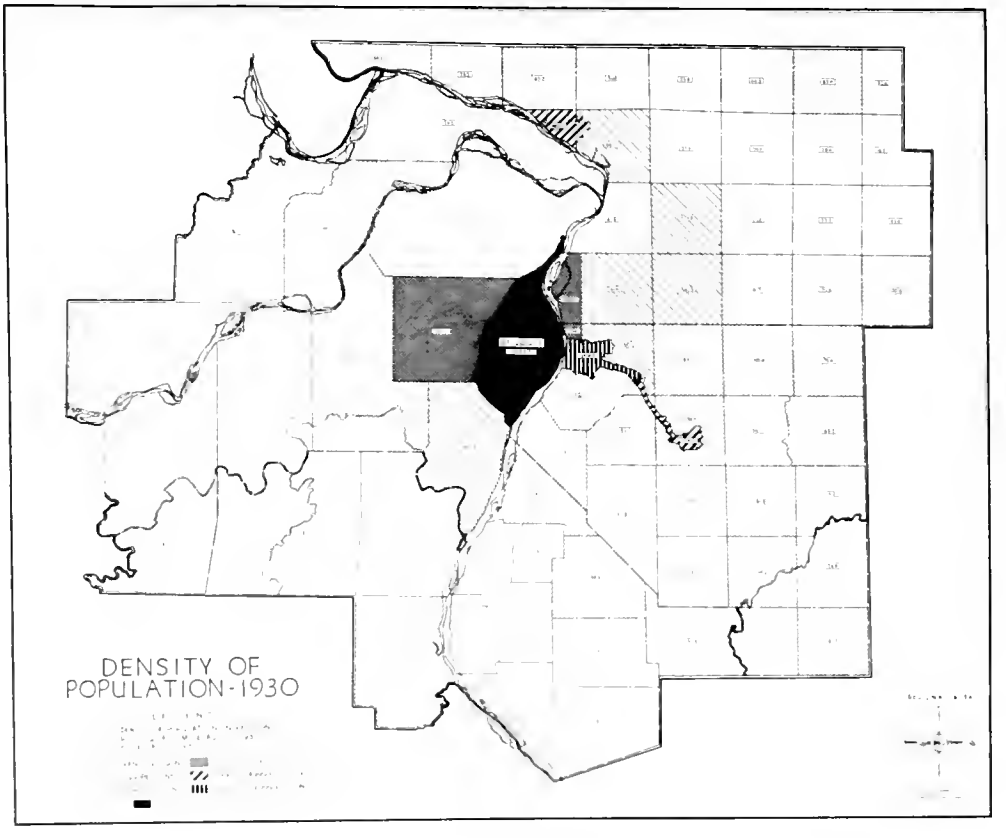

DENSITY OF
POPULATION-1930

FIGURE 8

TABLE III.—*Estimates of future population—St. Louis regional area*

Area	1930	1940	1950	1960
St. Louis region	1,391,384	1,600,000	1,850,000	2,000,000
10-year increase	220,934	208,616	250,000	150,000
Percent increase	18.88	15.0	15.6	8.1
St. Louis metropolitan district	1,296,192	1,500,000	1,740,000	1,890,000
10-year increase	222,177	203,808	240,000	150,000
Percent increase	20.69	15.7	16.0	8.6
St. Louis City	821,960	850,000	890,000	910,000
10-year increase	49,063	28,040	40,000	20,000
Percent increase	6.35	3.41	4.71	2.25

It is estimated that the region will contain 2,000,000 people in 1960, or an increase of approximately 609,000 over the 1930 population. The greatest increase will probably occur in the decade between 1940 and 1950, whereas a much slower rate of increase is anticipated in the following decade. Of the total future population within the region, it is estimated that 1,890,000 or 94.5 percent will be located within the metropolitan district. The majority of the past growth has been in this district and the trend will probably continue. Approximately 594,000 of the total population increase of 609,000 will probably be located within the metropolitan district. Beyond the metropolitan district an increase of only about 15,000 is expected between 1930 and 1960.

It is estimated that the City of St. Louis will have a population of 910,000, an increase of 88,000 people, during this 30-year period. The city has been growing at a much slower rate than either the metropolitan district or the region, and since no expansion of the city limits is anticipated, the majority of the future growth will undoubtedly take place in that portion of the metropolitan district lying outside of the city of St. Louis.

A more detailed estimate of future population is contained in table IV. Here the estimated future growth in each county and in the metropolitan portion of each county is indicated. The largest increase is anticipated in St. Louis County, particularly in the portion lying within the metropolitan district. It is estimated that the population will increase more than two and a half times in this area. Substantial increases are also expected in Madison and St. Clair Counties, although neither of these areas is expected to double in population.

Further estimates regarding the probable future distribution of population are contained in the table showing population growth within concentric 5-mile circles, having the St. Louis business district as their center. Only a small population increase is anticipated within the first 5-mile circle since the majority of the area is already intensively developed. Large increases are expected in the next three circles, with the greatest percentage of increase occurring in the 10 to 15-mile circle. The 20-mile circle is beyond the area of urbanization and will probably retain its

TABLE IV.—*Estimated future population in each county and in the metropolitan district of each county—St. Louis regional area*

	1930		1940		1950		1960	
	Population	Percent change	Population	Percent change	Population	Percent change	Population	Percent change
Entire region:								
Franklin	4,621	−6.9	4,400	−4.8	4,200	−4.5	4,100	−2.4
Jefferson	16,854	11.5	17,900	6.2	18,600	3.9	19,000	2.1
St. Charles	20,453	10.3	21,700	6.1	22,600	4.1	23,100	2.2
St. Louis	211,593	110.0	334,800	58.4	490,100	46.4	592,300	20.8
St. Louis (city)	821,960	6.4	850,000	3.4	890,000	4.7	910,000	2.2
Total in Missouri	1,075,481	17.9	1,228,800	14.2	1,425,500	16.0	1,548,500	8.6
Jersey	1,929	−0.6	2,000	3.7	2,100	5.0	2,100	0.0
Madison	143,830	34.6	177,400	23.3	206,600	16.4	221,200	7.1
Monroe	12,369	3.7	12,000	−3.0	11,800	−1.6	11,700	−0.8
St. Clair	157,775	15.6	179,800	13.9	204,000	13.5	216,500	6.1
Total in Illinois	315,903	22.3	371,200	17.5	424,500	14.3	451,500	6.4
Metropolitan district:								
St. Charles (city)	10,491	23.3	11,500	9.6	12,000	4.3	12,500	4.2
St. Louis County	207,372	113.8	323,500	56.0	458,000	41.6	552,500	20.6
St. Louis (city)	821,960	6.3	850,000	3.3	890,000	4.7	910,000	2.3
Total in Missouri	1,039,823	18.4	1,185,000	13.9	1,360,000	14.8	1,475,000	8.4
Madison	120,270	45.7	153,600	27.7	191,900	24.9	210,800	9.8
Monroe	2,676	7.6	2,900	8.3	3,100	6.8	3,200	3.2
St. Clair	133,423	22.6	158,500	18.8	185,000	16.7	201,000	8.6
Total in Illinois	256,369	31.0	315,000	22.8	380,000	20.6	415,000	9.2

TABLE V.—*Past and estimated future distribution of population in 5-mile circles—St. Louis regional area*

	0–5 circle	5–10 circle	10–15 circle	15–20 circle	20–25 circle	25–30 circle	30–35 circle	35–40 circle	Totals
Area in square miles	78.54	235.62	392.70	549.78	706.86	679.71	411.01	198.78	
Population, 1910	650,000	180,000	62,500	57,500	34,500	28,000	16,000	7,000	1,035,000
Percent of total	62.8	17.4	6.0	5.5	3.3	2.7	1.5	0.7	100.0
Population, 1920	699,500	249,500	72,500	58,000	39,500	29,500	16,500	5,000	1,170,500
Percent of total	59.7	21.4	6.2	5.0	3.4	2.5	1.4	0.4	100.0
Population, 1930	788,500	322,000	106,000	88,500	37,000	30,000	15,500	4,000	1,391,500
Percent of total	56.7	23.1	7.6	6.4	2.6	2.2	1.1	0.3	100.0
Population, 1940	830,000	390,000	171,000	124,000	37,000	29,000	15,000	4,000	1,600,000
Percent of total	51.9	24.4	10.7	7.7	2.3	1.8	0.9	0.2	100.0
Population, 1950	908,000	445,000	265,000	147,000	37,000	29,000	15,000	4,000	1,850,000
Percent of total	49.1	24.1	14.3	7.9	2.0	1.6	0.8	0.2	100.0
Population, 1960	950,000	500,000	320,000	150,000	36,000	27,000	14,000	3,000	2,000,000
Percent of total	47.5	25.0	16.0	7.5	1.8	1.35	0.7	0.15	100.0

present agricultural character. Some abandonment of the poorer farming lands can be anticipated within this area, which would cause a slight decrease in population.

Land Uses

The United States has been aptly described by President Roosevelt as a country that "has just grown." The uncontrolled use of land and other natural resources results in untold waste. During the past 2 years State planning boards have been created in 46 States, which are cooperating with the Federal Government in the preparation of a constructive land use program. There has been as great waste in the use of urban land as in agricultural lands. The proper utilization of land is of utmost importance in metropolitan regions where the land is more intensively used and the interests and welfare of the citizens are directly affected.

Existing Land Uses

Figure 9 indicates the present arrangement of dominant land uses within the St. Louis Region. While the major land uses are logically located within the region, many unsatisfactory arrangements exist. There is a central commercial district in downtown St. Louis supplemented by several subcenters throughout the region. Such subcenters occur in no regular pattern, but are found at various points on the important thoroughfares in the city, and in various incorporated communities throughout the region.

Industries have settled along the river front and in Mill Creek Valley in St. Louis, and along the river front and at certain places along the railroads in Illinois. There has been a strong tendency toward concentrating the heavier industries in the Great American Bottoms where large areas are available at comparatively low cost. The lighter industrial uses are less concentrated, but are quite numerous in the central area of St. Louis, surrounding the business district. Considerable area in the city of St. Louis is occupied by apartments and two- or four-family flats, whereas only a small portion of the surrounding suburban towns is absorbed for such dwelling uses. The widespread use of land for single family residences is particularly evident.

Surrounding, and in some instances interspersed within these urban land uses, are numerous truck gardens and farms.

While the basic pattern of the region is logical, the detailed development is generally unsatisfactory. The different land uses are not closely grouped, nor are they confined to separate well-defined areas. Instead, they tend to intermingle throughout much of the region. Industrial and commercial establishments and multiple dwellings are found scattered throughout too much of the residential development. Only in the newly developed areas are residential districts quite free from inappropriate uses.

The amount of land subdivision has exceeded any reasonable need and large vacant tracts are found throughout the districts. Premature land subdivision has resulted in abnormal cost of improvements in certain areas, while improper utilization of land in older areas is causing abandonment, even though adequate utility services are available. A study for a metropolitan sewer district in the more thickly settled area of St. Louis County revealed an existing bonded debt in excess of 10 percent of the assessed valuation, even though no main line sewers have yet been built, and other public services have not been fully provided. Studies of slum areas, on the other hand, disclose that depreciation of values and loss of population have resulted in maintenance and service costs four or five times greater than the taxes levied. A more satisfactory arrangement of land uses is necessary in the future.

The Land-Use Survey

Land-use studies in different cities have indicated that there is a direct relationship between the population and the land area that will be absorbed for different purposes. While some variation is naturally found within the different cities, they show decided uniformity, and ratios have been compiled which provide a definite basis for determining the amount of land necessary to serve any given unit of population.

A survey of the location and extent of existing land uses within the metropolitan district has been in progress during the past 2 years. The different property uses were grouped in eight major classifications, namely, residence, multiple dwelling, commercial, industrial, public and semipublic, parks and playgrounds, streets and alleys, and agriculture. In addition, the vacant property was classified into subdivided and unsubdivided land. Computations were made regarding

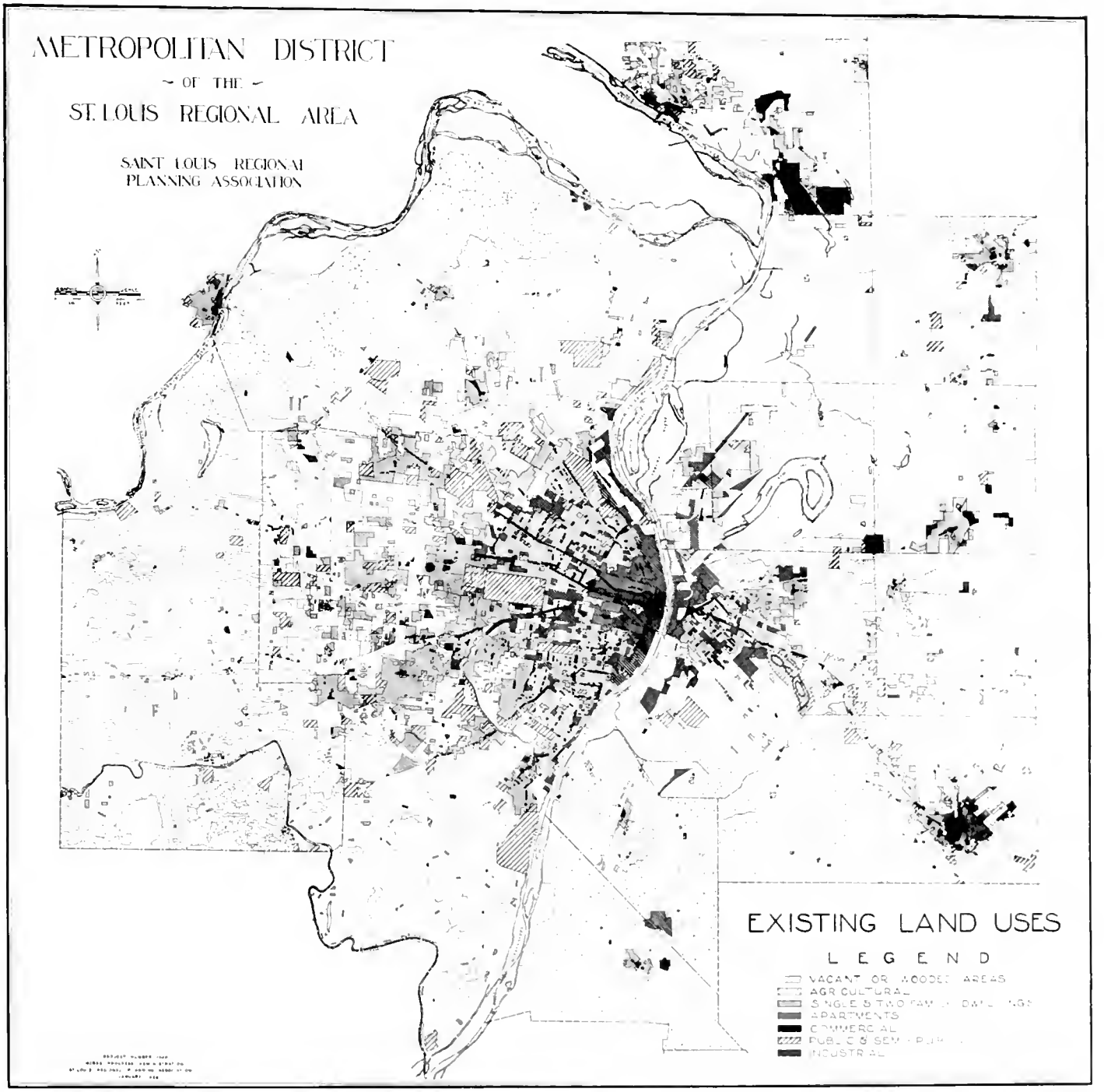


FIGURE 9

59256—36——5

the amount of area occupied by the different uses. The data regarding the location and extent of land use has been collected throughout the metropolitan district except in St. Clair County and in a small portion of St. Louis County.

The area in which the survey, and computations, was finished, contained 411,454.9 acres, or 642.9 square miles. This is 76.6 percent of the total metropolitan area. It includes land in both Missouri and Illinois, and comprises the majority of the intensively urbanized area. The area in acres occupied by the different uses within the sections surveyed was as follows:

	Acres	Percent of total	Area
Residential	29,733.2	7.2	
Multiple dwelling	2,739.1	0.7	
Commercial	4,188.2	1.0	
Industrial	15,220.6	3.7	
Public and semipublic	17,024.9	4.1	
Parks and playgrounds	3,474.0	0.9	
Streets and alleys	24,319.4	5.9	
Total developed urban area	96,699.4		23.5
Agricultural	211,365.7		51.4
Vacant	103,389.8		25.1
Total	411,454.9		100.0

Residential uses occupy the largest amount of land. In direct contrast is the small area devoted to multiple dwellings or apartment buildings. Public and semipublic uses, such as institutions, golf courses, and cemeteries, also occupy large areas. The large areas occupied by streets and alleys is partly due to the large amount of subdivided lands.

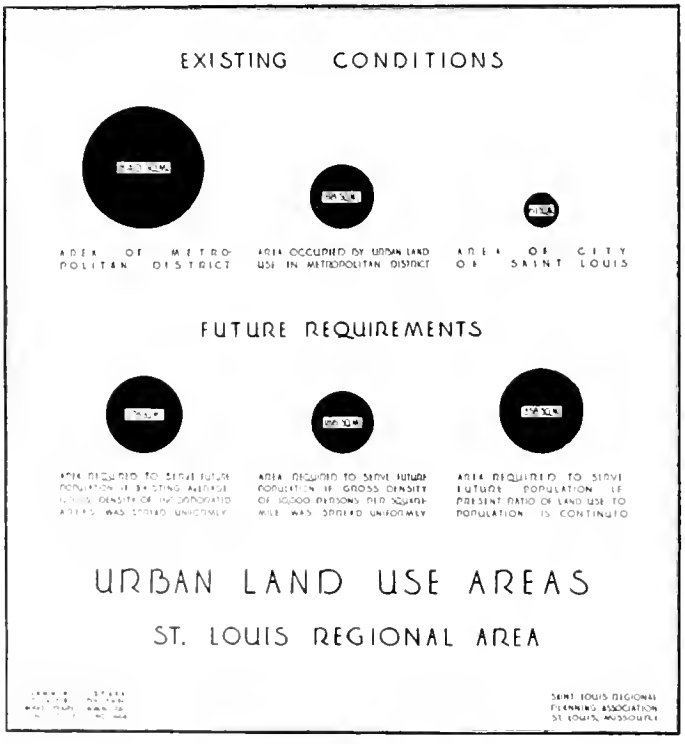


FIGURE 10

Of the 97,028.9 acres of vacant land outside the City of St. Louis, 24,687.5 acres or 25.4 percent was subdivided. This area contained 101,174 vacant lots, which clearly indicates the excessive amount of subdivision. The urban portion of the area surveyed (96,699.4 acres) which includes the City of St. Louis and contains all urban land uses which serve a population of more than 1,100,000 persons, is only one-third of 1 percent smaller than this vacant area. In addition there are 211,365.7 acres used for agricultural purposes. Certainly there is no need for a congested type of development. Adequate open spaces around the homes and more public parks and open area should be secured.

A comparison of the ratios of population to the different land uses, and of the percentages of land used for different purposes in this area, with similar ratios and percentages in 16 different self-contained cities, is contained in table VI. The ratios and percentages in the metropolitan district are quite similar to those found in these cities.

TABLE VI.—*Comparison of urban land use ratios and percentages in area surveyed with averages of 16 cities—St. Louis regional area*

Use	Acres per 100 persons in area surveyed[1]	Acres per 100 persons average of 16 cities [2]	Percent of developed area in area surveyed[1]	Percent of developed area average of 16 cities [1]
Residence	2.60	3.08	30.8	38.2
Multiple dwellings	.24	.08	2.8	1.1
Commercial	.37	.18	4.3	2.4
Industrial and railroad	1.33	.92	15.7	10.8
Public and semipublic	1.49	.62	17.6	7.6
Parks and playgrounds	.30	.48	3.6	6.3
Streets and alleys	2.13	2.82	25.2	33.6
Total developed area	8.46	8.17	100.0	100.0

[1] The area used for farming and truck gardening purposes, as well as the population using this land, was not included in computing these ratios.
[2] Data obtained from Urban Land Uses by Harland Bartholomew.

Area Required for Future Urban Land Uses

A preceding section indicates the probable amount and distribution of population that can be expected within the St. Louis region. The majority of this population will be located within the metropolitan district, and will have strictly urban characteristics. The data obtained from the land use survey provides a definite basis for determining how much land will be required by this urban population.

In determining the future urban area, it was assumed that a future population of 910,000 in the City

of St. Louis would absorb the entire present city area of 61.4 square miles. It was also estimated that, of the 980,000 persons expected within the remainder of the metropolitan district, 25,000 would be located in the agricultural sections and the balance, 955,000, would be in the urban areas. The adjacent table shows the estimated amount of urban land, divided according to the different uses, that will be necessary to accommodate the 955,000 persons.

Additional investigation and studies may reveal that slightly different areas will be required for some of these uses, especially the industrial, the public and semipublic, and the park and playground classifications. These would be minor variations, however, and should not affect the total area. Figure 10 shows that the above areas should be entirely adequate. Even a low average gross density of 10,000 persons per square mile requires less area than has been proposed. A very spacious and desirable type of development would be possible from such a distribution of land uses.

Use	Area in square miles	Percent of total developed area
Residences	104.4	35.2
Multiple dwellings	1.5	.5
Commerical	7.5	2.5
Industrial and railroads	44.8	15.1
Public and semipublic	67.6	22.1
Parks and playgrounds	6.0	2.0
Streets and alleys	67.1	22.6
Total	296.9	100.0
City of St. Louis	61.4	
Total urban area	358.3	

Figure 12 indicates a general distribution of proposed urban land uses within the St. Louis Region. Because of insufficient opportunity for detail study no

FIGURE 11. Wood River industrial district. The Great American Bottoms in Illinois affords unusually advantageous industrial sites

attempt is made to show the exact location of commercial centers or the various types of living facilities. The plan does, however, indicate the desirable locations for the major industrial districts, as well as the general location of the area that will be used for other urban purposes, such as residential and public and semipublic. It is based both upon the existing arrangement of land uses and upon the adaptability of the area for the proposed use. It is contemplated that the future urban area should be so developed that no large vacant tracts would exist, but that there would be a well organized pattern in which the several land uses would be properly related. This proposed arrangement of the future urban area must be supplemented by more careful future study, but the present plan is of particular value to show the relatively small amount of land needed for future urban purposes.

Figure 12 also shows recommended uses of land surrounding the urban area. The more rugged and unproductive sections should be gradually withdrawn from cultivation and be placed in pasture, forest, or recreational use. If the region is gradually organized in accordance with the recommendations of this plan, vast economies can be obtained and more desirable standards of development should be secured. Public facilities such as schools, roads, and utilities can be directly related to land use. This would mean better service where needed and the prevention of unnecessary improvements in the areas used for agriculture, pasture, or forest.

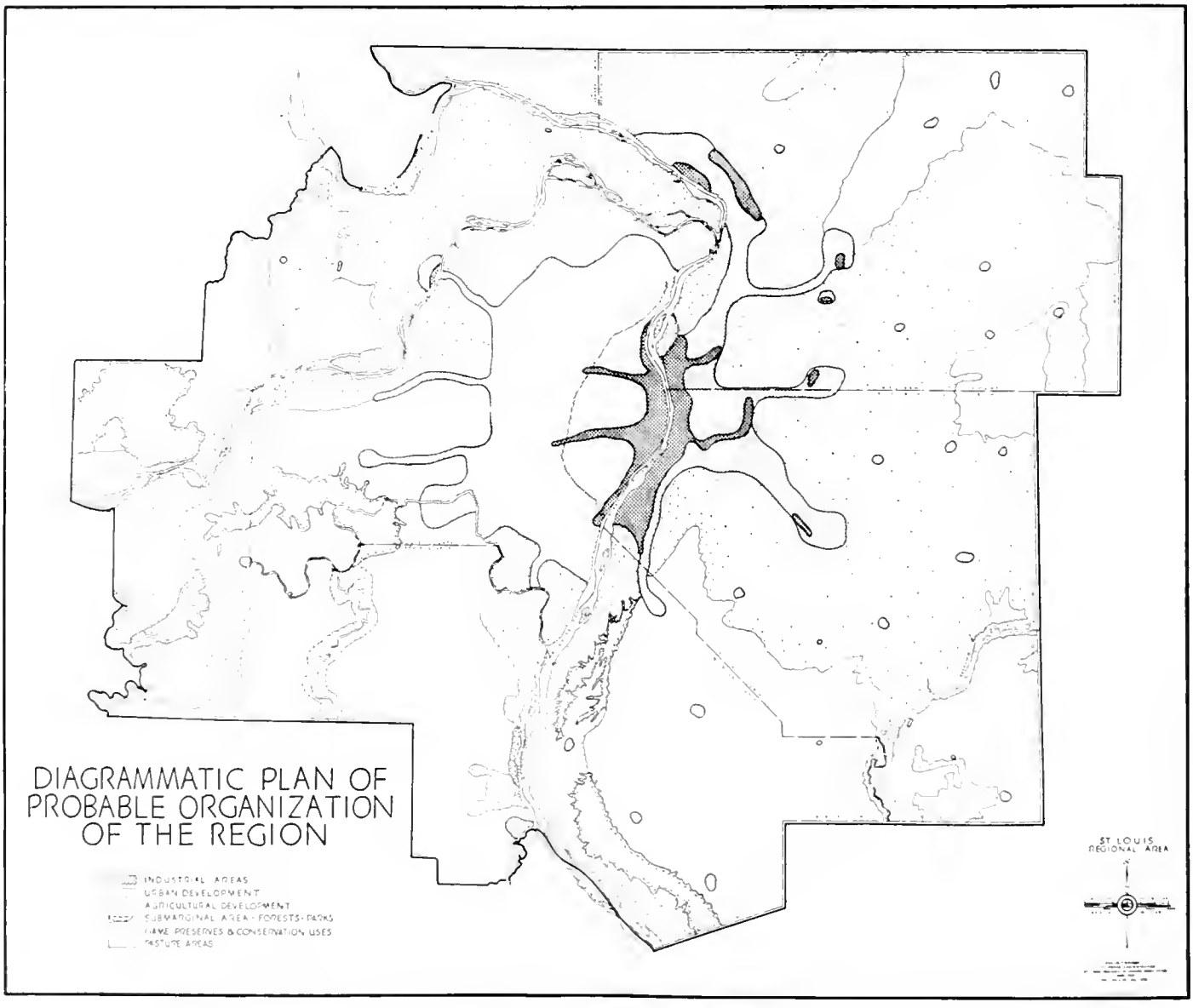


FIGURE 12

SECTION IV
PRINCIPAL PHYSICAL IMPROVEMENTS OF THE REGION, EXISTING AND PROPOSED

Highways

The highways in any area can be generally grouped into minor and major routes. The minor routes are primarily used by the abutting property owners and carry only small amounts of traffic. The regional plan is not directly concerned with these routes other than that they can be developed in accordance with modern standards. The major routes carry the majority of the traffic volume and are an important influence in the growth, development, and proper functioning of the region. The plan is directly concerned with the location and improvement of these highways.

Existing Conditions

The increased number of automobiles in metropolitan districts during the past two decades has necessitated many highway improvements. In the City of St. Louis the number of automobiles increased from 7,752 in 1911 to 153,899 in 1933. The automobiles enabled population to spread over wide areas, and new highways were essential to serve this growth. Street widening and improvements were necessary to accommodate the concentration of traffic on certain streets within urban areas. Many of these essential improvements have already been made. An appraisal of the existing system, and an analysis of highway needs under the probable future organization of the region are now essential.

Existing Highway System Within the Region

The routes forming the present highway system within the region are graphically shown in figure 13.

The system includes Federal, State, county, and township highways and each type is indicated by a different width of line. The highways are much more concentrated in the urbanized portion of the metropolitan district than in the outlying areas.

The majority of the marked Federal and State routes radiate from the city of St. Louis. These routes provide the nuclei for a good system of radial thoroughfares leading directly from the central business district to the outlying portions of the region. The highways connecting the outlying towns which permit cross movement of traffic between different portions of the region, are less direct and somewhat inadequate, particularly in the Missouri counties. An excellent bypass or belt route (Lindbergh Blvd.) is found in St. Louis County, however. The large number of unconnected highways and indirect alinements indicates certain improvements are essential before the region will have a unified and adequate system.

Existing Pavement Widths

Figure 14 graphically shows the portion of the existing highway system having hard-surfaced pavements and also indicates the general width of such pavements. It also gives an idea of the adequacy of the existing system of highways.

The majority of the widely paved routes are located within the City of St. Louis, which has carried on an extensive street widening program during the past several years. A few of the radial routes in St. Louis County also have wide pavements. Practically all of the wider pavements in the Illinois portion of the region are found within incorporated communities. In Illinois, however, more paved highways are found between the outlying towns than in similar sections of Missouri. A comparison of this figure with the one showing the volume of traffic movements indicates the necessity of wider pavements on some of the more important radial routes.

Traffic Flow on Principal Highways—12-Hour Period

Traffic counts were taken during the early part of 1934 on all principal highways within the region. The volume of traffic found on these routes during a typical 12-hour day is graphically indicated in figure 15. Differentiation is made between the volume of passenger and commercial vehicles.

The largest concentration of traffic is found in the urban areas immediately adjoining the City of St. Louis. A decided decrease in the volume of traffic is noted as the outer edges of the urban areas are approached. Several wide highways are necessary to accommodate the vehicular traffic in urban areas. The majority of traffic in the outlying portions of the region is concentrated rather uniformly upon the Federal highways. The disparity in the traffic volume in different portions of the region is indicated by the 12,867 vehicles counted on Clayton Road near the City of St. Louis, with only 88 vehicles counted on State Aid Route No. 17 near Dupo, Ill.

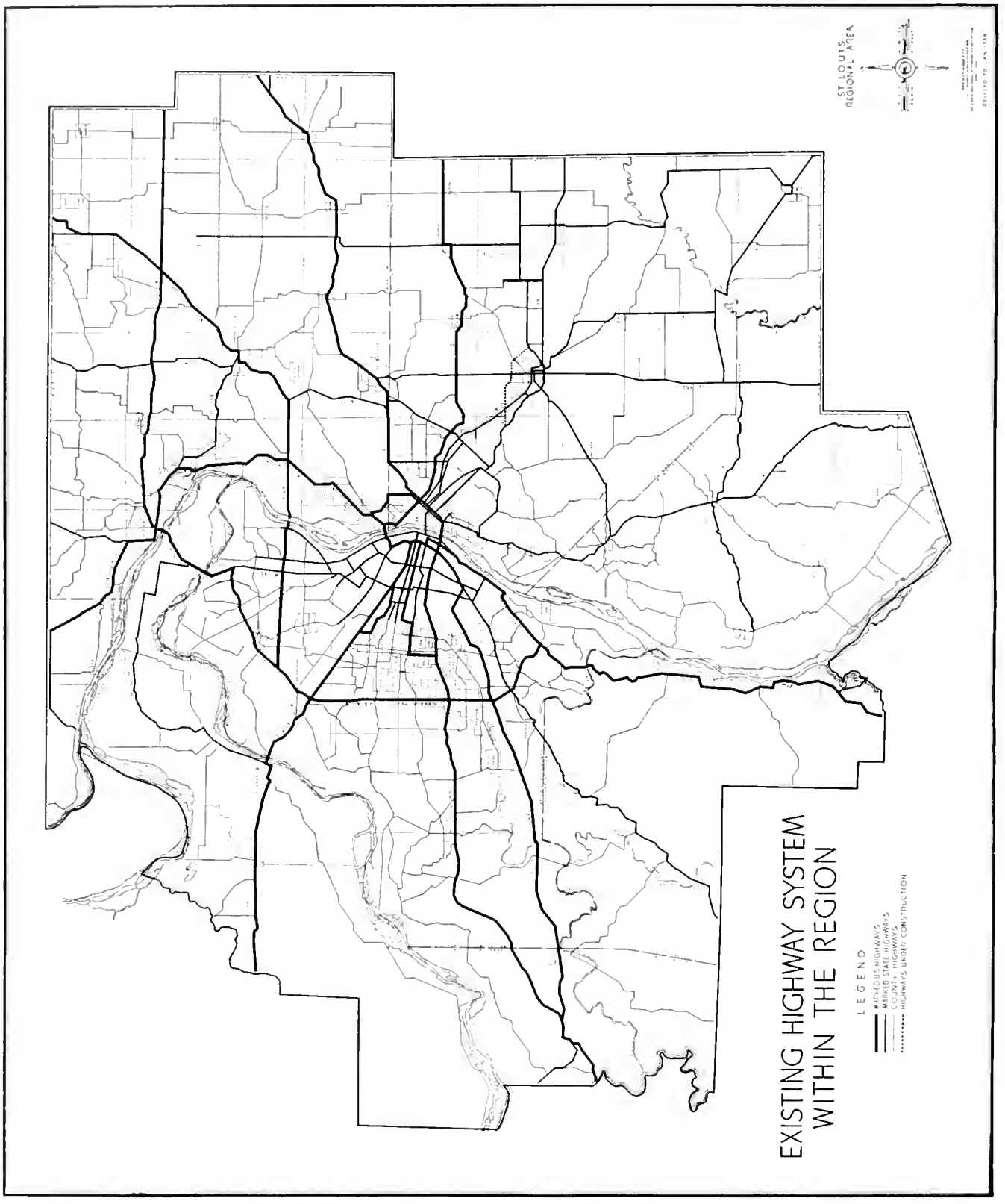

EXISTING HIGHWAY SYSTEM
WITHIN THE REGION
LEGEND
FREEWAYS
MARKED STATE HIGHWAYS
COUNTY HIGHWAYS
HIGHWAYS UNDER CONSTRUCTION
ST. LOUIS
REGIONAL AREA

FIGURE 13

Passenger cars comprise the majority of the vehicular traffic, but several routes carry a large number of commercial vehicles, particularly the Illinois highways leading to the Municipal Bridge. Commercial vehicles usually move at a slow rate of speed, and cause traffic congestion when found in large numbers on narrow roadways.

Traffic Flow on Principal Highways—Maximum Hour

The volume of traffic is seldom spread uniformly over the entire day, but instead is concentrated during certain limited periods. Modern highways must accommodate this maximum concentration in traffic without causing undue delays and inconvenience. On some of the more heavily traveled highways, such as Clayton Road, the traffic during the maximum hour represented 16.2 percent of the total traffic found during a 12-hour period. In some of the outlying routes the traffic is spread more uniformly over the entire day. Through traffic represents a large amount of the volume on the outlying portions of the important radial routes.

Future Highway Needs and Proposed Improvements

Many highway improvements are essential within the St. Louis region. The studies presented here clearly show the concentration of traffic in the urban areas. It is generally recognized that the urban sections are the most inadequate portions of the present State highway system. The St. Louis Region is the

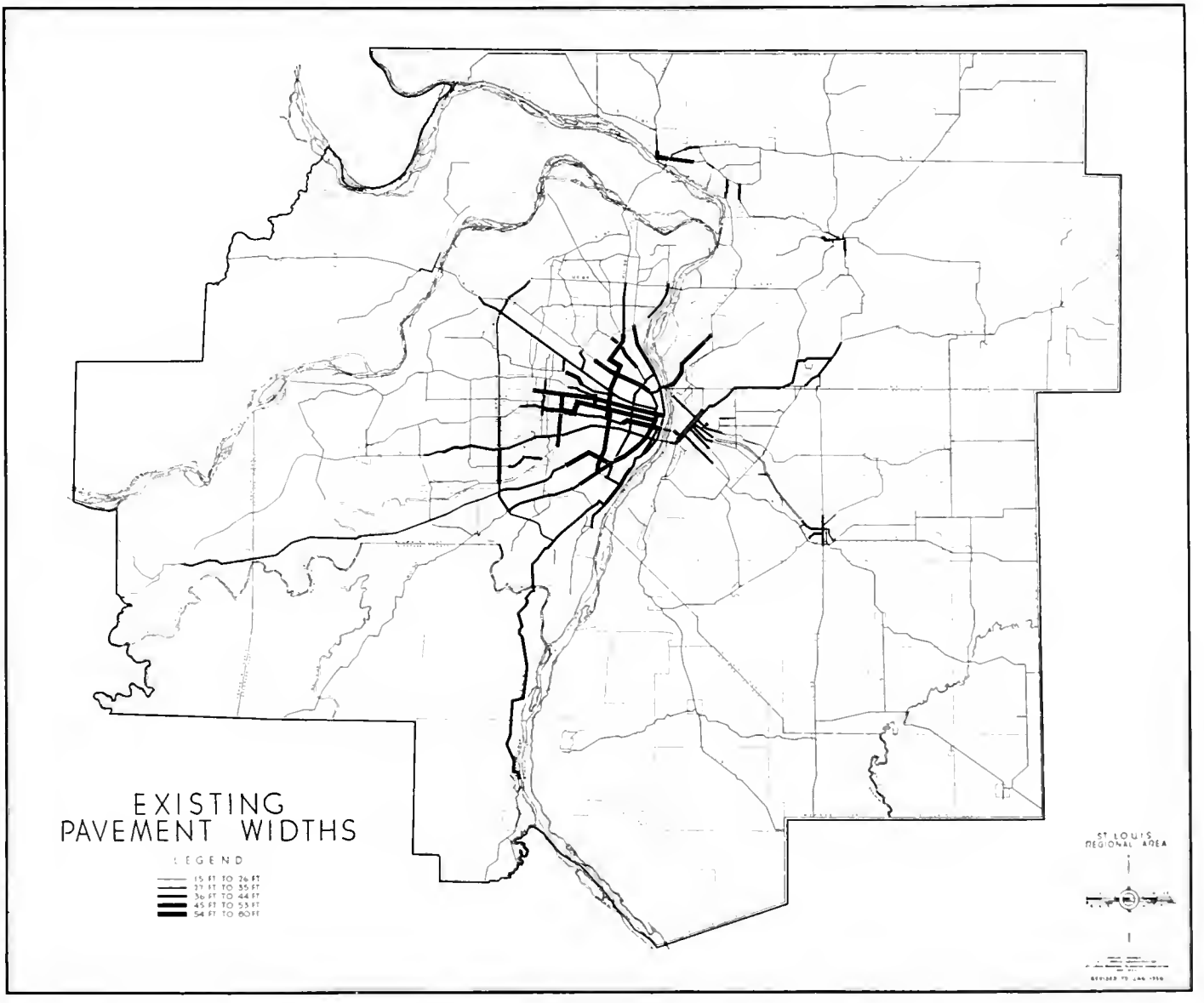


FIGURE 14

largest urban area in the State of Missouri, and in the State of Illinois is exceeded only by the Chicago region. The local highway problems warrant much consideration by the highway departments of the two States. Increased expenditures for extensions and improvements are fully justified. They would greatly improve the adequacy of each State system and would serve the maximum population.

Three general types of highway improvements are essential. The first is the widening and improvement of the important radial routes leading directly from the central city to the outlying portions of the region. The majority of traffic is now concentrated on these routes and the pavement should be widened to accommodate not less than four lanes of vehicles, especially within the metropolitan district. An even wider pavement is necessary where parking occurs in the urban areas. The second type of improvement is the provision of additional routes in the present and probable future urban portion of the region. A number of wide routes permitting direct and convenient movement into the central city, as well as movement between the different residential sections and commercial centers, are essential. The third type of highway improvement is the extension and connection of certain highways in the more outlying portions of the region. Certain additional highway improvements such as grade-crossing eliminations between the major highways and railroads, and between important thoroughfares, are also necessary.

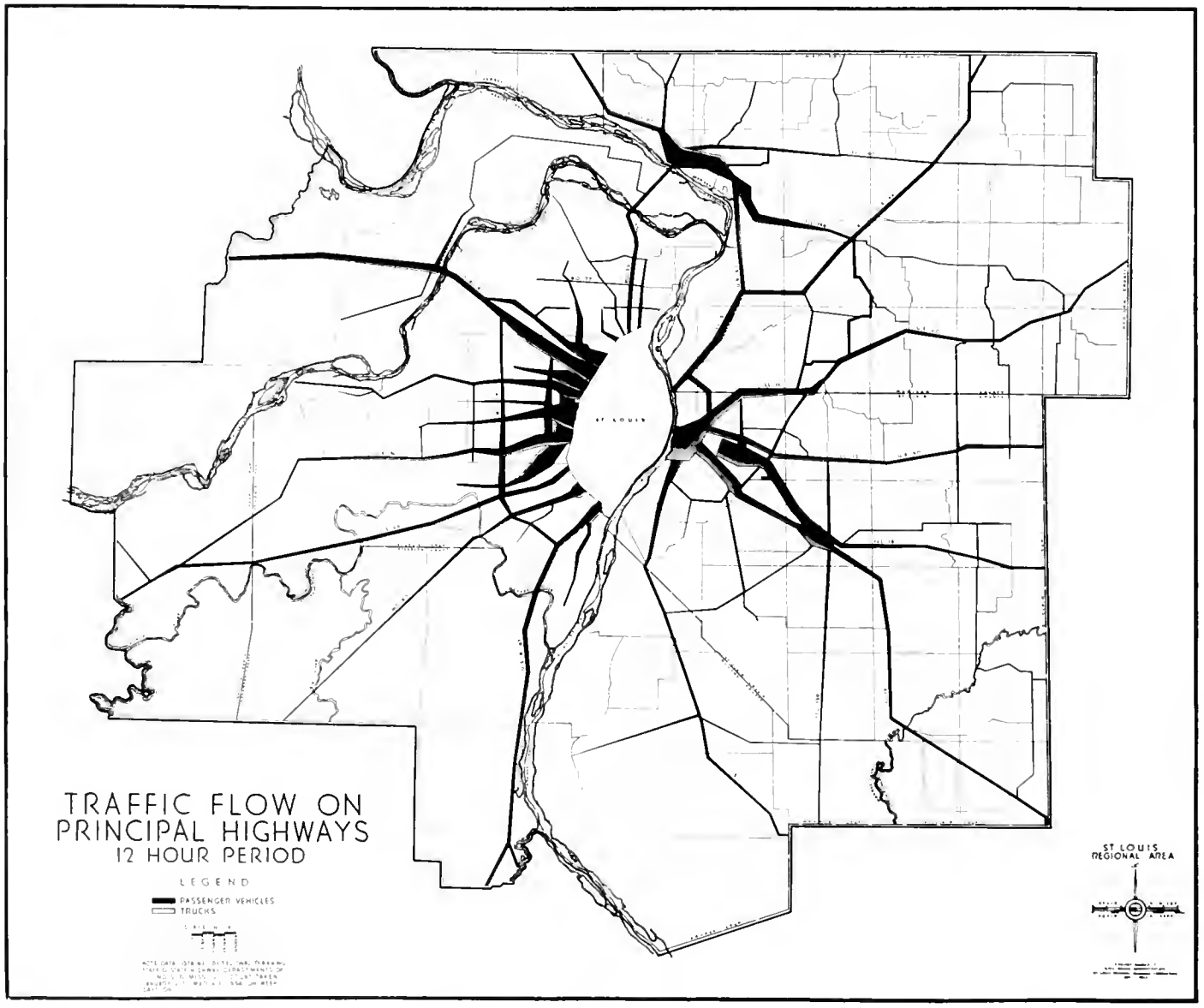


FIGURE 15

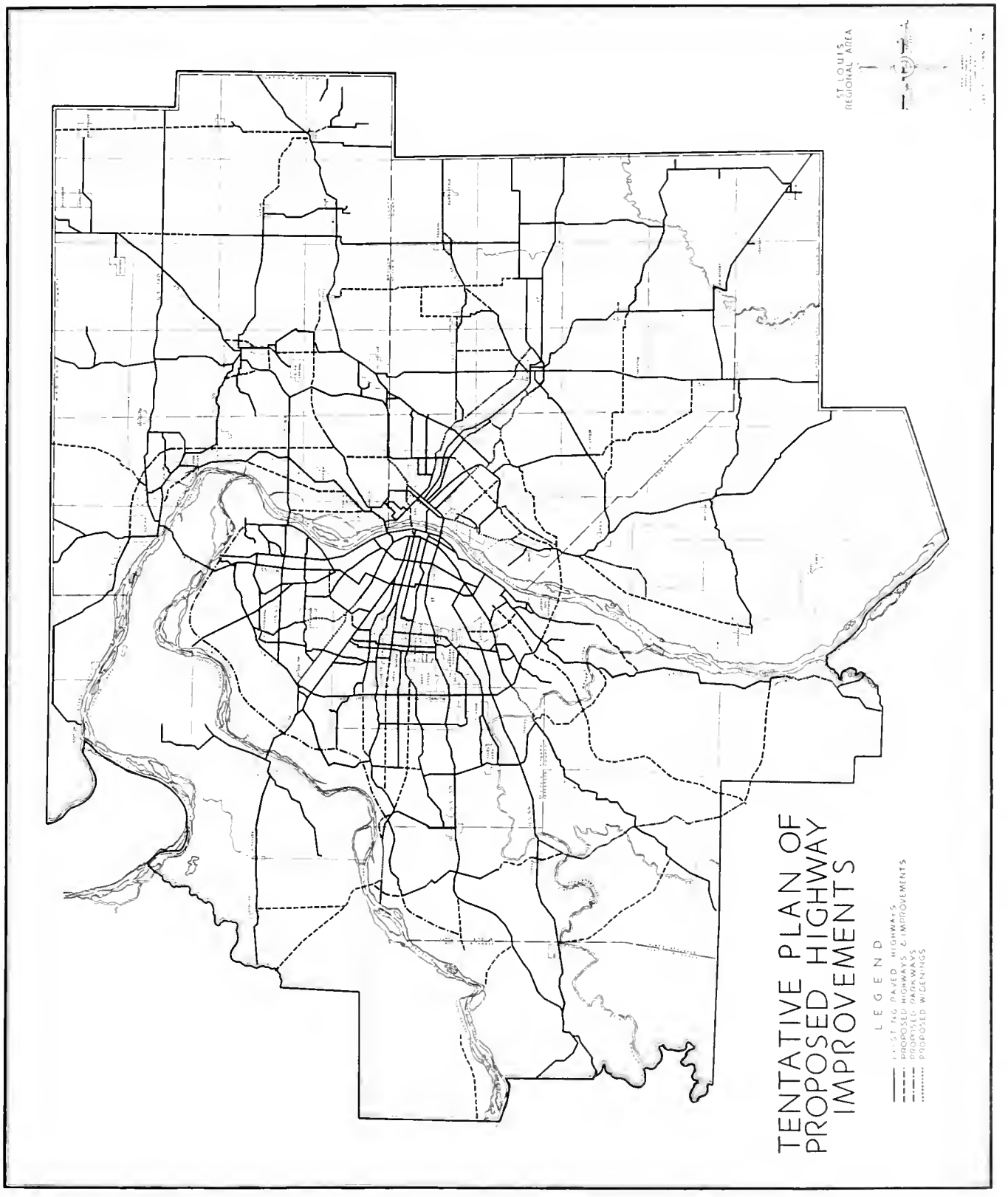

ST. LOUIS REGIONAL AREA
TENTATIVE PLAN OF PROPOSED HIGHWAY IMPROVEMENTS
LEGEND
EXISTING PAVED HIGHWAYS
PROPOSED HIGHWAYS & IMPROVEMENTS
PROPOSED PARKWAYS
PROPOSED WIDENINGS

FIGURE 16

Figure 16 shows some of the more important highway improvements that should be made within the near future. This plan, however, is not intended to show all recommendations for the complete ultimate system. A number of proposed widening projects are indicated on the more important radial routes. A few additional radial routes, especially within the probable future urban area, are also proposed. An important improvement is the development of an outer belt on the east side of the river extending south from Alton around the more intensively developed urban sections, and eventually connecting with the belt line (Lindbergh Blvd.) in Missouri near Jefferson Barracks. The two routes will form a complete belt around the intensively developed area and will facilitate traffic movement within the region. Other bypass routes are suggested around some of the larger communities.

A number of improvements are proposed in the outlying areas, especially between the incorporated towns. The majority of these latter improvements are either short connecting routes or paving projects. All of the proposed improvements will be an integral part of a unified highway system that is directly related to the needs of the region.

Mississippi River Bridges

The Mississippi River, because of its width and central location within the St. Louis region, is the major physical barrier interfering with the normal development of highways. Because of the large expenditures necessary to construct bridges, it is essential that they

FIGURE 17.—The St. Louis business district. In the foreground is shown the Memorial Plaza and Civic Center now being developed as part of the city plan. The new Federal Building is shown in the upper right-hand corner of the Civic Center

be so located and designed that a minimum of crossing will conveniently serve the maximum population.

A survey of traffic movement over the five vehicular bridges was made in January 1935. Checkers were stationed near the toll collectors and obtained from the driver the origin and destination of the vehicles. While such information could not be obtained from each vehicle without seriously congesting traffic, enough drivers (47.4 percent) were questioned to provide representative data.

The volume of traffic using the different bridges during the 12-hour period is indicated in the following table:

Volume of traffic over Mississippi River bridges

[12-hour period]

Bridge	Total volume of traffic	Number of cars from which data on origin and destination was obtained	Percent of total
Municipal	16,354	6,016	36.8
Eads	2,750	1,648	59.9
McKinley	3,500	2,105	60.0
Chain of Rocks	825	767	92.9
Lewis and Clark	1,500	1,285	85.7
Total	24,829	11,821	47.6

The Municipal Bridge carried 68.5 percent of the total traffic crossing the Mississippi River, and none of the other bridges approaches this volume. It should be noted, however, that the volume of traffic upon at least two of the bridges, namely, the Chain of Rocks and the Lewis and Clark, is undoubtedly much larger during the summer months, since they are well located to accommodate traffic moving through the region. The Municipal Bridge has a total capacity of only three traffic lanes. Because of the sharp curves, the toll collectors and the stalled cars, this bridge is used to capacity during the maximum hour and some motorists experience delay in crossing.

Origin and Destination of Traffic

Figure 18 graphically indicates the traffic movement over each bridge during the period of count. Each line of traffic represents the number of cars recorded during the count, instead of the actual 12-hour volume. Thus, the width of the line over the Municipal Bridge should be nearly three times as wide in order to represent the actual volume.

The traffic movements are generally direct over all of the bridges with the exception of the Municipal Bridge, which is used by vehicles from practically all sections of the region. Table VII indicates the comparative volume of the dominant traffic movement over

TABLE VII.—*Dominant traffic movements over the Municipal, Eads, and McKinley Bridges*

[This table includes the volume in both directions and has been adjusted to represent the actual 12-hour movement]

[12-hour volume of traffic]

	Between East St. Louis—St. Louis business district		Between East St. Louis—west central St. Louis		Between area north of East St. Louis and Belleville business district—west central St. Louis		Between Belleville and surrounding area—business district west central St. Louis		Between area north of East St. Louis and Belleville—north central and north St. Louis	
	Volume	Percent of total	Volume	Percent of total	Volume	Percent of total	Volume	Percent of total	Volume	Percent of total
Municipal	3,227	19.7	1,136	6.9	3,360	20.5	2,752	16.7	455	2.7
Eads	985	35.8	888	32.3	115	4.2	130	4.7	0	0
McKinley	30	.1	25	.1	1,759	50.3	0	0	1,025	29.3
Total and average	4,242	18.9	2,049	9.1	5,234	23.2	2,882	12.7	1,480	6.5

	Between Belleville and East St. Louis—north central and north St. Louis		Between southeast portion of region business district and west central St. Louis		Between southeast portion of the region—southwest portion of the region		Between area north of East St. Louis and Belleville—south St. Louis, U. S. Nos. 50, 66, 61, and 67		Between East St. Louis and Belleville—south St. Louis and U. S. Nos. 50, 66, 61, and 67	
	Volume	Percent of total	Volume	Percent of total	Volume	Percent of total	Volume	Percent of total	Volume	Percent of total
Municipal	970	5.9	765	4.7	176	1.1	1,140	7.0	1,592	9.7
Eads	150	5.4	60	2.2	4	.2	2	.1	140	5.1
McKinley	80	2.3	0	0	0	0	234	6.7	10	.3
Total and average	1,100	4.9	825	3.6	180	.8	1,376	6.1	1,746	7.7

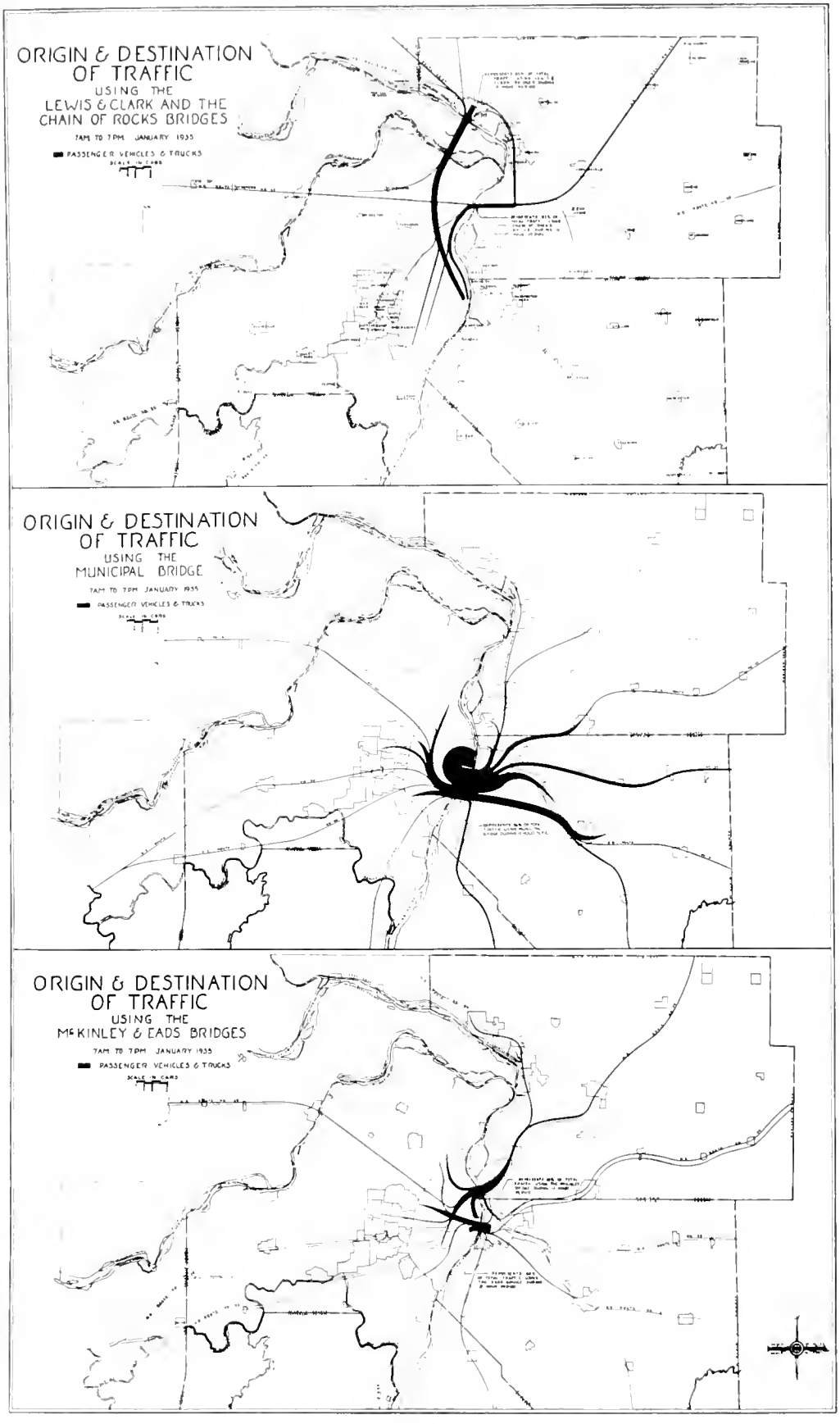

ORIGIN & DESTINATION
OF TRAFFIC
USING THE
LEWIS & CLARK AND THE
CHAIN OF ROCKS BRIDGES
7AM TO 7PM JANUARY 1935
PASSENGER VEHICLES & TRUCKS
ORIGIN & DESTINATION
OF TRAFFIC
USING THE
MUNICIPAL BRIDGE
7AM TO 7PM JANUARY 1935
PASSENGER VEHICLES & TRUCKS
ORIGIN & DESTINATION
OF TRAFFIC
USING THE
McKINLEY & EADS BRIDGES
7AM TO 7PM JANUARY 1935
PASSENGER VEHICLES & TRUCKS

FIGURE 18

the three central bridges (McKinley, Eads, and Municipal). Nearly one-fifth of this total movement is between East St. Louis and the St. Louis business district. Of this, 76.0 percent used the Municipal Bridge and 23.0 percent the Eads Bridge. There is also a heavy traffic movement between East St. Louis and west central St. Louis. An equally important flow, 23.2 percent of the total traffic over the three bridges, occurs between the central portion of St. Louis and the area north of East St. Louis, which latter comprises the northeastern portion of the region. Vehicles using the Municipal Bridge to make this movement have to follow a very indirect route.

In general, the major movements over the bridges are due to travel between the heavily populated areas, especially the St. Louis business district and nearby Illinois communities, rather than to traffic passing through the region.

At least one additional bridge over the Mississippi is now needed to accommodate traffic, and others will be necessary in the future. The data presented here shows that this bridge should be located so as to relieve traffic conditions on the Municipal Bridge and facilitate some of the movement between the eastern communities and the central portion of St. Louis. The eastern territory now unserved by a bridge connecting with the central section of St. Louis, is the northern portion of East St. Louis, National City, Brooklyn, and the area served by U. S. Highways No. 40 and No. 50.

A connection between St. Clair and Cass Avenues, or between Missouri Avenue and either Delmar Boulevard or Franklin Avenue, affords the best possibilities for a bridge location in this general area. The former location (St. Clair to Cass) appears to be the most desirable location, but a thorough analysis of the effect of the bridge traffic upon local traffic should be made before the detailed plans for the bridges are prepared.

A new crossing south of the Municipal Bridge will eventually be necessary. This would provide a convenient crossing for considerable local traffic and would also accommodate through traffic which desired to bypass the congested area. A connection between the belt-line highways in Missouri and Illinois will be desirable eventually. The data in this report clearly indicates, however, that these southern bridges are not now as urgently needed as a bridge in the proposed central location.

Existing and Proposed Grade Crossings

The early elimination of many of the dangerous grade crossings within the region is imperative. The advantage in public safety would be incalculable, both in lives saved and in accidents prevented. Vehicular traffic movement would be expedited by eliminating delays. Public convenience would be promoted. The estimated value of time saved would represent a large proportion of the cost.

It is impracticable to eliminate all of the existing grade crossings within a limited period. Any program for grade crossing elimination should consequently include only those crossings that are most dangerous, and whose elimination would afford maximum advantages.

Figure 19 shows the comparative volume of vehicular and railroad traffic on all existing crossings within the region. The most heavily used crossings are found within the metropolitan district. The greatest hazards and inconveniences to the public are found at these crossings, and they should be given first consideration in any program of elimination. Other factors should also be considered, however, in formulating a program. The distribution of population, the present and future importance of the highways, the character of railroad traffic, and the relative degree of hazard, because of obstructed views and the like, are among the additional factors that should be considered.

There follows a suggested program of grade-crossing elimination for the St. Louis region. Projects are grouped according to States, and their listing is not intended to indicate the order in which they should be eliminated. All should be eliminated at an early date.

Missouri portion of the region.—

1. Kingshighway and the Missouri Pacific Railroad (St. Louis).

2. DeBaliviere and the Wabash Railroad (St. Louis).

3. Waterman and the Wabash Railroad (St. Louis).

4. Hamilton and the Wabash Railroad (St. Louis). This, and the two preceding crossings, should be eliminated at the same time.

5. Sarah and the Wabash Railroad (St. Louis).

6. Gravois (Missouri 30) and the Missouri Pacific Railroad (St. Louis).

7. Broadway (U S 67) and the Missouri Pacific Railroad (Carondelet).

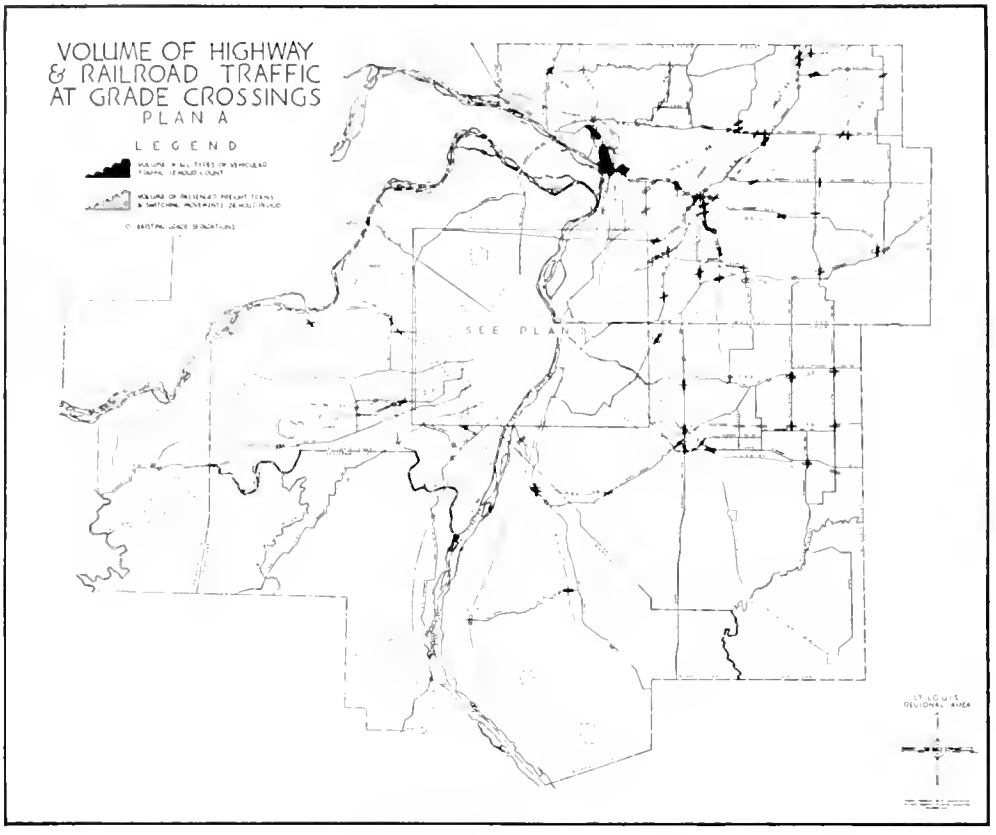
8. Chippewa and the Missouri Pacific Railroad (St. Louis).

9. Ivory (U S 67) and the Missouri Pacific Railroad (St. Louis).

10. Southwest Avenue and the Missouri Pacific Railroad (St. Louis).

11. Fyler and Frisco Railroad (St. Louis). The present viaduct should be replaced in the immediate future.

12. North Market Street Docks (St. Louis). A grade elimination structure located in the general vicinity of North Market Street, possibly at Monroe


VOLUME OF HIGHWAY
& RAILROAD TRAFFIC
AT GRADE CROSSINGS
PLAN A
LEGEND
SEE PLAN

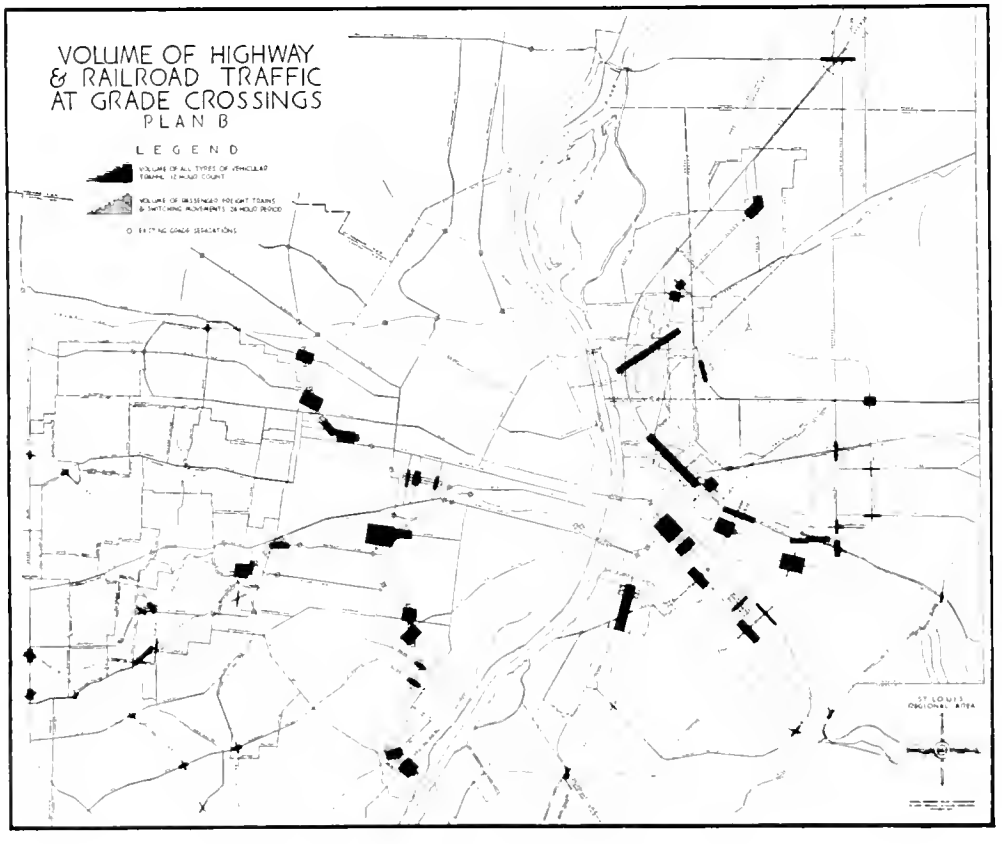

VOLUME OF HIGHWAY
& RAILROAD TRAFFIC
AT GRADE CROSSINGS
PLAN B
LEGEND

FIGURE 19

Street, would be very advantageous in reaching the water-front area.

13. Olive Street Road and the Wabash Railroad (St. Louis).

14. Big Bend Road and the Missouri Pacific Railroad.

15. Big Bend Road and the Frisco Railroad (Webster Groves).

16. Lindbergh Boulevard (U S 61 and Missouri 77) and the Missouri Pacific Railroad (Kirkwood).

17. Lindbergh Boulevard (U S 61 and Missouri 77) and the Frisco Railroad (Kirkwood).

18. Rock Hill Road and the Missouri Pacific Railroad (Webster Groves).

19. Delmar Avenue and the Terminal Railroad (University City).

20. Missouri State Highway 30 (Gravois Road) and the Frisco Railroad.

Illinois portion of the region.—

21. Tenth Street and the Southern Railroad (East St. Louis).

22. Eighth Street and the Southern Railroad (East St. Louis).

23. Twenty-Sixth Street and the Southern Railroad (East St. Louis). A contract for eliminating this crossing has recently been let by the State Highway Department.

24. State Street (Highway 15) and the Southern Railroad (East St. Louis).

25. Bond Avenue (Highway 13) and the Terminal Railroad (East St. Louis).

26. Ninth Street and the L. & N. Railroad (East St. Louis).

27. Eighth Street and the L. & N. Railroad (East St. Louis).

28. Fifteenth Street and the L. & N. Railroad (East St. Louis).

29. St. Clair Avenue and the B. & O., L. & N., Pennsylvania Railroad, and Railroad Yard Leads (East St. Louis). These railroads are so close together that they should be eliminated with one structure.

30. Broadway and the Terminal Railroad (East St. Louis). The improvements now being made to Cahokia Creek will necessitate certain changes in the existing viaduct at this location.

31. State Highway No. 3 and the Terminal Railroad (south of East St. Louis).

32. State Highways 3 and 4 and U S 66 over the Terminal Railroad System (Venice).

33. State Highways 3 and 4 and U S 66 over the Southern, C. & A., Big Four, and the Wabash Railroad (Venice).

34. Twentieth Street and the C. & A., Big Four, Wabash, and the Terminal Railroad (Granite City).

35. Illinois 3 and U S 67 and the C. & A., Big Four, Wabash, and the Illinois Terminal (Mitchell).

36. Illinois 3 and U S 67 and the C. & A. Big Four, Illinois, and C., B. & Q. Railroads (Wood River).

37. Illinois 3 and U S 67 and the C., B. & Q., Alton, and Big Four Railroads (East Alton).

38. State Highway No. 159 and the Illinois Terminal (Roxana).

39. Two eliminations on bypass routes around Belleville.

40. State Highway No. 159 and the Illinois Central (south of Edwardsville).

41. State Highway No. 159 and Troy and Eastern (south of Edwardsville).

42. New belt route over the I. C. Railroad.

43. New belt route over the I. C., Nickel Plate, L. & N., and the Illinois Terminal.

44. State Highway No. 157 and the I. C. Railroad (Centerville station).

45. State Highway No. 159 and the L. & N. and St. Louis & O'Fallon Railroads (French Village). A contract has been awarded by the State highway department for eliminating this crossing.

46. State Highway No. 48 and the Pennsylvania Railroad (Highland).

Transportation

Railroad facilities are an important factor in the regional plan. They exert a profound influence upon the organization of the region. Main line rights-of-way and terminal facilities are generally located along water courses and in low-lying or level areas where there are no steep gradients to contend with. Here also are found the larger industrial plants. Adequate space is desirable in order that they may increase in size and number. There should be a minimum of conflict with other land uses, particularly with residential sections. The regional plan is directly concerned with the location, arrangement, and coordination of railroad facilities and the location of industrial districts.

Existing Railroad Facilities

Figure 20 shows the location of all railroads within the region. There are 19 trunk lines, 5 short coal roads, and 4 terminal or switching companies. About one-third of the total railroad mileage in the United States is operated by railroads entering St. Louis.

Only one large electric line is found within the region, the Illinois Terminal System, which owns its own bridge across the Mississippi River and a large new terminal in St. Louis. The terminal and bridge are connected by a two-mile subway and elevated line.

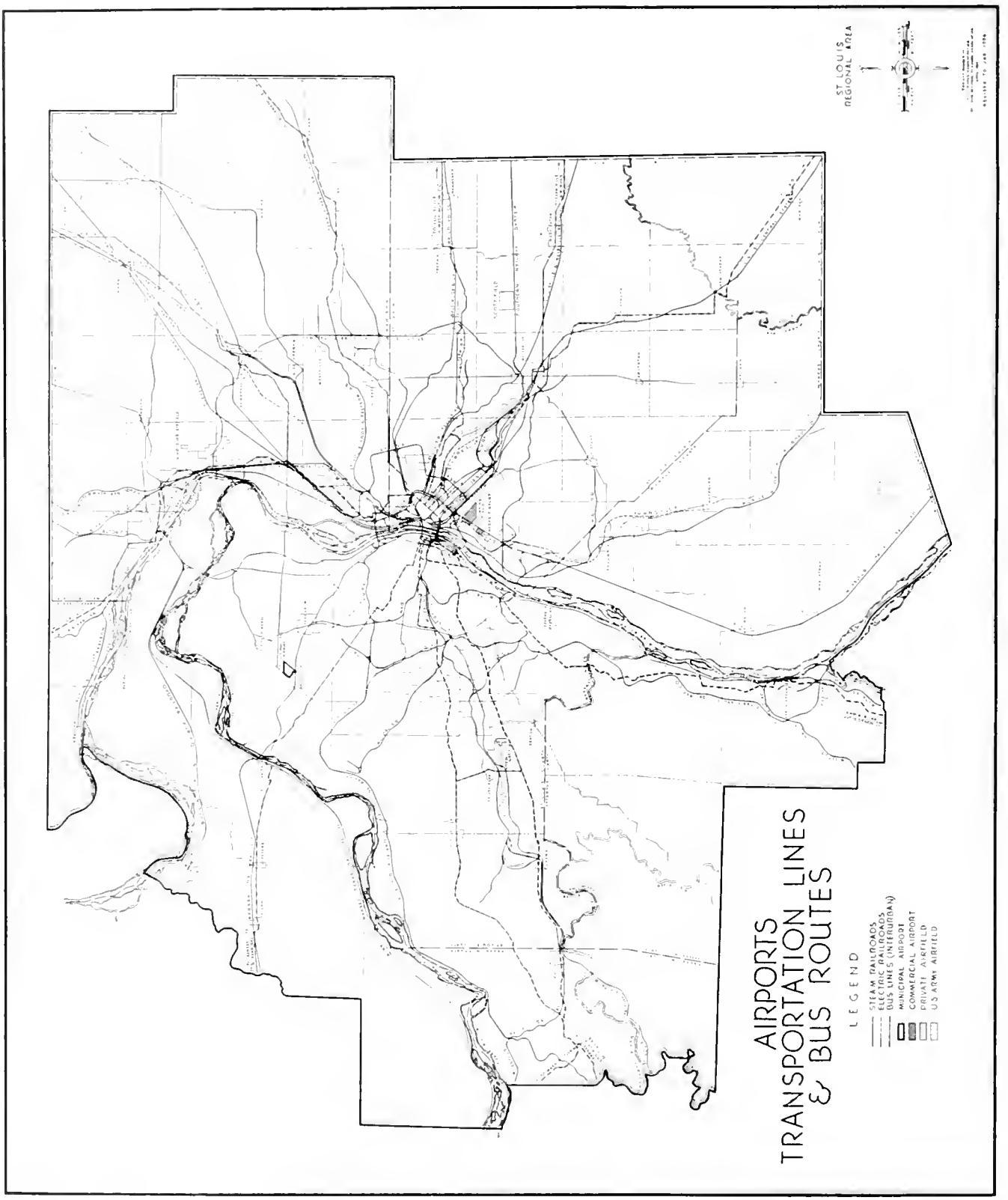

AIRPORTS
TRANSPORTATION LINES
& BUS ROUTES
LEGEND
STEAM RAILROADS
ELECTRIC RAILROADS
BUS LINES (INTERURBAN)
MUNICIPAL AIRPORT
COMMERCIAL AIRPORT
PRIVATE AIRFIELD
U.S. ARMY AIRFIELD
ST. LOUIS
REGIONAL AREA

FIGURE 20

The majority of the railroad lines are found in the northern portion of the region, because of greater traffic to and from the heavily industrialized northeastern portion of the United States. The rugged topography of the southern portion of the region restricts the number of railroads which could be built in this direction. The majority of the large freight houses, switching yards, and other terminal facilities are located along or near the river front, particularly in East St. Louis and the Tri-Cities. The concentration of these facilities presents many problems of coordination.

Freight Transportation

The Terminal Railroad Association, owned and controlled by 14 of the trunk lines, interchanges considerable freight between railroads, but there is not a unified terminal operation. In fact, the individual freight terminals are highly competitive, the result of the early development of the lines. This has resulted in an unnecessarily complicated arrangement.

River Transportation

The Mississippi River is a freight traffic way which serves a large section of the United States. By means of the Ohio River at Cairo, the Pennsylvania and Ohio industrial districts are reached. The north and northwest sections of the United States are tapped by means of the upper Mississippi and Missouri Rivers.

Likewise the Great Lakes region and Canadian territory are reached by means of the Chicago Canal and the Illinois River Waterway recently opened to traffic between St. Louis and the Great Lakes. Service between the region and the Gulf ports via New Orleans and between the region and the Alabama industrial district via the Warrior River has been in operation for almost 15 years.

In addition to the service outlined above, there are the local packet steamers which bring much traffic to this region. There are also several privately owned lines serving large industries located here. Facilities for handling river traffic on both the Illinois and Missouri shores are available in the harbor of St. Louis, and include rail-river transfer facilities.

Passenger Transportation

Prior to 1925, the railroads carried a large number of commuters between suburban communities and the City of St. Louis. The construction of paved highways encouraged the use of the private automobile so that there has been a decided reduction in the number of commuters. In the last 5 years bus competition and the use of private automobiles has caused serious curtailment of commutation service by the steam and electric railroads.

Figure 20 shows that, in practically all instances, the present bus lines are located on highways which closely parallel main-line railroads. This is an unnecessary duplication of facilities.

At the present time all steam railroads entering St. Louis use the Union Station at Eighteenth and Market Streets. A few trains from the east use the Relay Depot in East St. Louis as a terminal, but over 90 percent of all passenger trains use the St. Louis Union Station as their terminal.

The steam railroads entering the City of St. Louis now use two bridges for passenger trains—the Merchants Bridge and the Eads Bridge. The electric interurban line (Illinois Terminal System) uses its own bridge (McKinley) across the Mississippi for both passenger and freight traffic.

As a result of an exhaustive study of railroad facilities made in 1922, certain changes in passenger-train routes and improvements in facilities were recommended. Working toward the accomplishment of these objectives, the Terminal Railroad Association, a few years ago, enlarged its train shed from 32 to 42 tracks and constructed additional auxiliary facilities such as coach yards, express buildings, etc.

There is now in process of construction (although temporarily held up) a new passenger station in East St. Louis and a new approach from that station to the St. Louis Municipal Bridge, which when completed will afford a more expeditious route for passenger trains.

Other Forms of Transportation

There are many bus lines within the region which now furnish a passenger service more extensive than previously given by the steam and electric railroads. Some of these lines are interstate bus routes and others are intrastate or interurban. They do not have a common terminal as do the railroads. Instead, many bus terminals and stations are found in St. Louis and in the surrounding suburban towns.

No data is available regarding the amount of freight transported to and from the St. Louis region by motor trucks. While this form of transportation involves many regulatory problems, the regional plan is primarily concerned with the adequacy of the highway routes upon which this type of traffic is concentrated. Wider pavements are necessary on those highways carrying large volumes of passenger and commercial vehicles.

There has been a remarkable increase in air transportation, particularly in the number of passengers carried, during the past few years. The location of

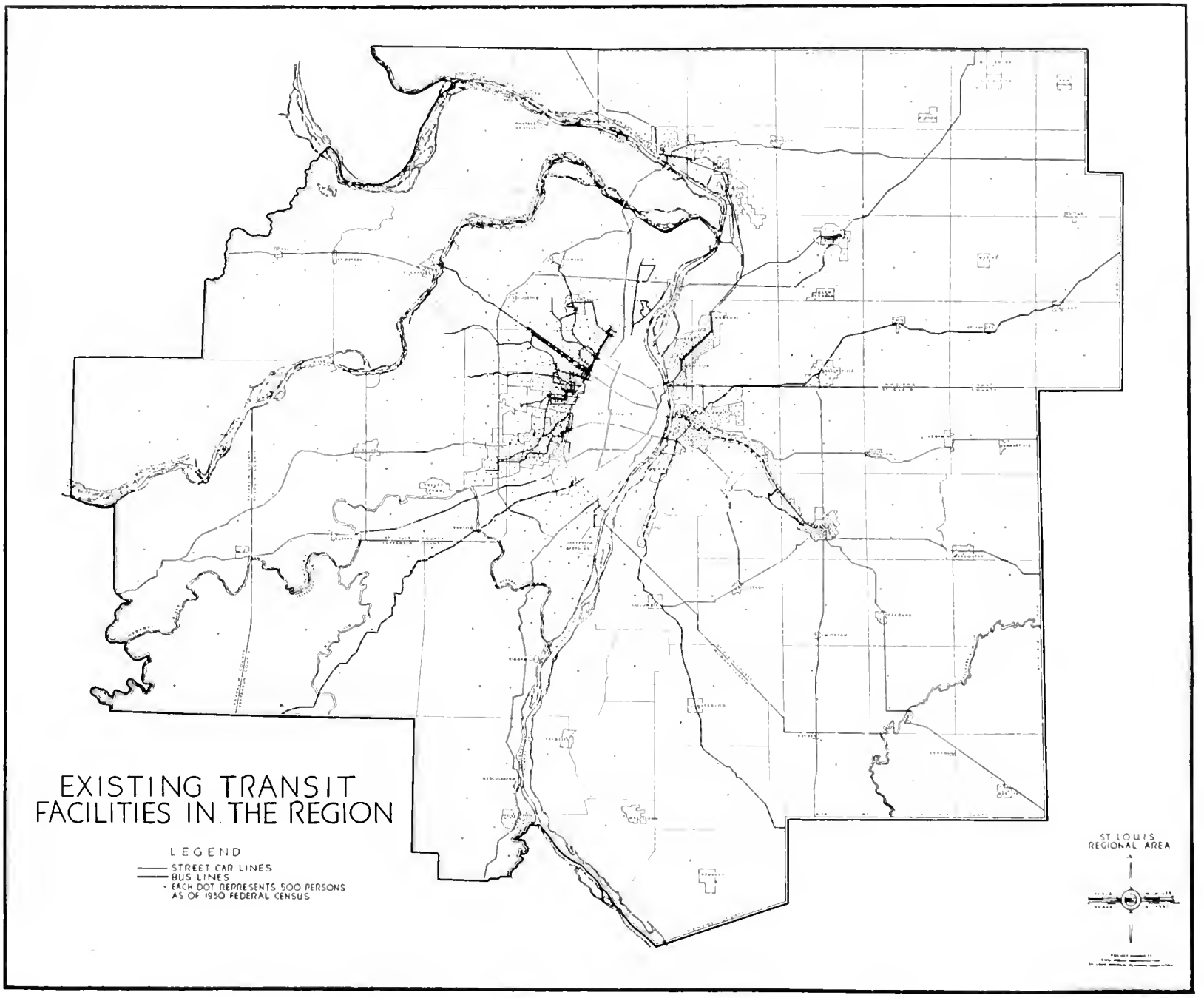

EXISTING TRANSIT
FACILITIES IN THE REGION
LEGEND
STREET CAR LINES
BUS LINES
EACH DOT REPRESENTS 500 PERSONS
AS OF 1930 FEDERAL CENSUS
ST LOUIS
REGIONAL AREA

FIGURE 21

existing airports within the region is also indicated in figure 20.

There are now three airports and three airfields in the St. Louis region. One airfield is owned and controlled by the United States Army and two airfields are privately owned and operated. There is only one airport, Lambert Field, which is publicly owned and operated. At present all of the established air lines (a total of six) operating in and out of this region have scheduled stops only at Lambert Field. This airport has excellent equipment and facilities and has an A–I–A rating, but is located about 16.4 miles from the St. Louis business district.

The Curtiss Airport is a privately owned commercial field with an excellent rating. It is located on the east side of the river and is about 6.3 miles from the St. Louis business district. The Columbia Airways used this field as its terminal for a short time. The Parks Airport is also on the east side of the river. This is a small field and is primarily used as an air college for flight and mechanical students.

The Stouby Airfield is privately owned and located about 15 miles southwest of the St. Louis business district. It is a small field containing only one hangar and runways. The Wood River Airfield also comprises only a small area. It is located about a mile east of Wood River and contains only runways. No hangars or other facilities are available.

Future Transportation Needs

In general, the passenger transportation facilities appear to be ample to serve the needs of the region (except for extension of some lines), but they are not properly coordinated to serve most advantageously. This is due, in part at least, to the divided regulatory authority over the various forms of transportation and to the lack of sufficient regulatory authority in certain instances.

The probable future requirements for airport facilities should be more carefully analyzed. It is possible that a port containing landing facilities for both land and sea planes will be necessary eventually. The needs and advantages of a central port more conveniently located to the central business district should be studied. Many factors such as accessibility, fogs, smoke, and drainage must be considered in such studies.

Considerable improvement could be made in the passenger facilities of the region by rerouting certain of the trains over the Municipal Bridge. It is recommended that the necessary approaches to this bridge, now authorized by ordinances, be completed at an early date, so that the necessary rerouting to avoid congestion can be carried out. The suggested program of grade crossing eliminations outlined under the chapter on highways would be of much value to railroad transportation, particularly because of the trends toward fast-moving passenger trains.

For about 2 years a very exhaustive investigation has been made within the region under the direction of Federal Coordinator Eastman, looking toward the pooling of freight terminal facilities and terminal operations. All of the roads have been cooperating in the study which is now practically completed. In view of this study, no recommendations concerning coordination of facilities are given at this time. Additional study should be given to the entire transportation system within the region and plans for future improvement of its many elements should be prepared.

Transit

The improvement of transit facilities (street cars and buses) so that they will serve all persons in the most convenient and direct manner is one of the objectives of the regional plan.

Population has scattered into outlying areas to such an extent that extension of transit service has been financially impractical in all areas. The development of a satisfactory transit system in the St. Louis Region depends upon a more evenly balanced distribution of population which in turn depends upon a sound urban land policy.

Existing Transit Facilities

The location of existing transit routes within the region beyond the city of St. Louis is shown in Figure 21. The majority of the lines do not extend beyond the metropolitan district, although a few are located on the important radial routes and provide transit facilities between the central city and the outlying towns. The plan also shows the 1930 distribution of population beyond the city of St. Louis and indicates the extent to which the existing facilities serve this population. Transit facilities are primarily concentrated within the urban areas immediately west of the city, but even here a considerable portion of the population is not within reasonable distance of any route. In the Illinois section of the region the routes are located only on the main radial thoroughfares.

The present transit facilities consist primarily of streetcar lines, supplemented by motorbus operations. In addition there is some service performed by "service cars" (privately owned automobiles operating under a license and making a charge for each ride).

The transit facilities of St. Louis, furnished by the St. Louis Public Service Co. extends out into St. Louis County. Since 1931 the competing bus service furnished by the Peoples Motorbus Co. has been con-

solidated with the streetcar and bus operations of the St. Louis Public Service Co.

The bus and streetcar lines are well coordinated and, with a few minor exceptions, a universal transfer system prevails. There are many defects in the present routing of streetcar lines, which are the result of the uncoordinated construction of these lines by individual companies in the early years (prior to 1900). To eliminate much of the unnecessary duplication of lines and to provide more direct routing entails a heavy expenditure of capital which the present owners are unable to provide.

The same situation exists on the east side, but to a much smaller degree. In the city of East St. Louis all streetcars have recently been abandoned and transit service is now furnished by motorbuses.

Future Transit Needs

The future population within the region will require additional transit facilities. The existing lines will serve as the nuclei of the ultimate system, but certain improvements even on these routes will be essential. The major function of the transit system is to enable people to travel from the outlying areas to the central business district as directly and quickly as possible. Direct routes with limited stops and a minimum of interference with other types of traffic will be essential for this purpose. A few lines will also be necessary to provide cross movements in the more densely populated areas.

Some form of rapid transit seems desirable within the St. Louis area, particularly within the congested portion thereof. This does not imply, however, that an extensive system of subways or elevated routes will ever be essential.

Much study should be given to the possibility of providing rapid-transit service upon some of the main-line railroads. Several of the railroads now lead directly from the central business district through the intensively urbanized portions of the region. Practically all of the remaining grade crossings will gradually be eliminated on these routes. Modern equipment could be provided which would permit the commuters to travel with speed and comfort. A small capital expenditure should be involved in providing this type of transit service. The use of certain railroads as rapid-transit routes will probably never prove entirely satisfactory, however, until a terminus or station for suburban service is developed east of Twelfth Street in St. Louis. A detailed investigation is necessary to select the proper location for this facility.

Another method of providing rapid-transit service might be by an elevated or depressed trafficway for the use of private automobiles and busses. The depressed highway now being constructed through Forest Park should indicate the practicability and value of such facilities.

There should be a system of local bus routes which would supplement these dominant rapid transit routes. These local routes should extend from the stations along the radial routes and would thereby serve the surrounding residential areas. Many residents in the outlying suburban areas might also park their cars at the nearest station and use the transit facilities for reaching the downtown district.

The present studies have not been carried sufficiently far to state definitely what the ultimate solution should be. Possibly a combination of railroads and motor-vehicle trafficways (elevated or depressed) would prove sufficiently flexible and satisfactory. The organization of the region as depicted in figure 11 would greatly facilitate the development of an adequate transit system. Routes could be selected that would best serve the present as well as the future population and a program of improvements adopted that would be related to the future needs.

Sewers and Water Supply

Sanitary sewer and water facilities often fail to keep pace with urban development. In other instances, such as in premature subdivision, they have been installed far in advance of reasonable need. Certain older sections of the city, particularly apartment districts, contain sewers which are too small to meet the demands placed upon them. A more evenly balanced system is essential. Comprehensive planning and certain regulatory measures could insure such a balanced system.

The matter of drainage or caring for the natural rainfall (usually called storm water) is an equally important matter in urban areas. Much of the soil is covered by an impervious surface while the streams have been so obstructed by the encroachment of buildings that they are unable to carry the normal run-off. The natural lakes which serve as reservoirs for this storm water until it could be discharged in a normal manner are often removed to make way for urban development. As a result the expense of storm drainage is greatly increased.

Existing Conditions

Figure 22 shows in a general way the adequacy of sewer and water facilities within the region. A large amount of the urban area outside the city of St. Louis is entirely unserved by sanitary sewers. While water facilities have tended to keep abreast of urban growth, some improvements are necessary in certain of the smaller communities.

Sewerage and Sanitation

The majority of the cities along the Mississippi River, including St. Louis, East St. Louis, Granite City, and Alton, are served by combined sanitary and storm-water sewers which discharge into the river. The sewers of East St. Louis, Madison, and Granite City, Ill., have to discharge through pumping stations when the Mississippi River reaches a stage of about 20 on the gage. The other systems discharge freely against all ordinary high water conditions. The sewers in the suburban towns adjoining the city of St. Louis on the west are connected to the sewers in the central city.

The other communities served by sewers have facilities for accommodating only the sanitary flow. Practically all of these cities which are located some distance from the rivers, such as Highland, Columbia, and Millstadt, have separate treatment plants. Some of these treatment plants, particularly the one at Columbia, Ill., are inadequate and do not satisfactorily purify the sewage.

The water courses in St. Louis County are generally running with sewage and are exceptionally foul. A bond issue for installing sanitary trunk sewers in the main valley of the existing and probable future urbanized portion of this county was defeated in 1935. Several of the incorporated communities in this area have recently established separate sewer districts and are now developing trunk lines with the aid of P. W. A. and W. P. A. funds. Practically all of these new sewer lines are in accordance with the preliminary

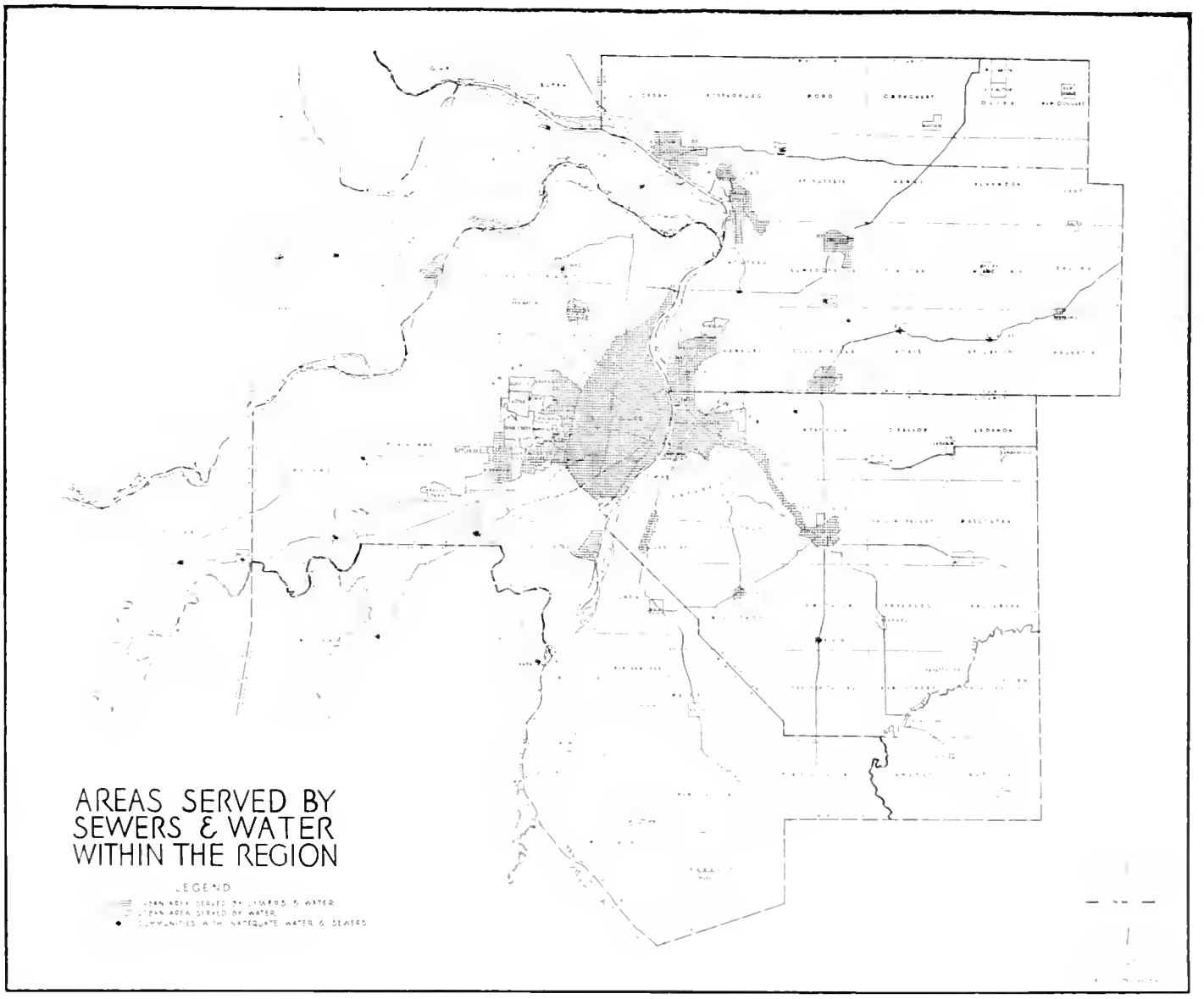


FIGURE 22

comprehensive plan which was prepared as a basis for the bond-issue referendum. This method of piecemeal development, however, will result in nearly doubling the cost of one complete system under a single authority as first proposed.

Drainage

As has been noted, storm-water drainage has been taken care of in the cities of St. Louis, East St. Louis, and certain other communities by combined sewers. Apparently the economic field for this facility has been exhausted and storm drainage for the remainder of the region must be cared for in wide-open watercourses. In the hilly or rolling sections of the west and the east sides, the natural watercourses will be adequate for this purpose if improved by occasional straightening and if protected against encroachments. In the flat lands of the east side, the existing watercourses are invariably inadequate and artificial channels must be provided.

Water Supply

The public water supplies on the west side are well organized and have ample capacity for a long period. All of these, namely, the city of St. Louis, the St. Louis County Water Co., and the city of Kirkwood, have purifying plants that are capable of ready expansion. The water systems of the city of St. Louis and the county water company parallel each other to a certain extent, and this duplication probably does not give the most economical service to the region as a whole. East of the river certain industries are served by private wells, but all domestic and commercial services are provided by private water companies. The services of these companies extend over a large area, and seem to be adequate for present needs. The extent to which individual industries that are large water users have developed private wells is somewhat surprising. This matter requires further study in determining the ultimate supply necessary for the region.

Future Needs

Many improvements are now needed in the sewerage and sanitation facilities and in the facilities for drainage. As the population increases within the metropolitan district additional improvements and extensions will be essential. A development program, related to the future distribution of population and to the future organization of the region, should be prepared, and the necessary improvements gradually made over a long period. A brief discussion follows of some of the more important factors that should be considered in such a program.

Sewerage and Sanitation

Additional sewer facilities and improvements are needed in St. Louis County. Many thickly settled but unincorporated urban areas have no sanitary sewer facilities whatsoever. A few of these areas have attempted to incorporate sewer districts but the citizens have voted against any bond issues. Enlarged facilities are needed in certain sections of the incorporated communities.

All of the present and probable future urban portion of St. Louis County should be incorporated into one or possibly a few large sewer districts. The least number of districts should enable a more equitable sewer-tax assessment throughout the entire urban area. It would also enable some of the poorer yet densely populated sections to share their sewer costs with other areas. It is doubtful that the poorer areas will ever have an adequate sewer system until some such scheme is followed. It is also essential that unified or separate districts adopt and follow a comprehensive sewer plan similar to the one that has been proposed. Otherwise, the individual sewer lines will not be adequate or properly coordinated.

On the east side of the river the greater part of the area adjacent to the Mississippi River now possesses some sewer facilities, but much extension and improvement is needed. The most serious problem is involved in securing proper sanitation for the communities at some distance from the river, and this will probably have to be solved by sanitary trunk sewers built by a metropolitan agency, as, for example, the East Side Levee and Sanitary District. It appears to be practicable to build sanitary trunk sewers to drain any future development within 5 or 6 miles from the river front, although such systems will involve extensive pumping. For areas more remote, such as Caseyville, and for the higher lying towns, as, for example, Belleville and Collinsville, it is probable that separate sewage treatment works will provide the ultimate solution.

Sanitary standards and facilities in the more remote semisuburban areas of low population density, are an important matter. Below a certain population density sewer systems are not economically justifiable unless that area is definitely scheduled for future development. This is, however, only true in the semirural districts or for estate districts of the country-club type where population does not exceed two or three persons per acre and then only if a satisfactory independent water supply is available, or private wells can be obtained free from contamination by the private sewage treatment and disposal units.

The factor of sanitary regulations must also be considered in any comprehensive program. Sewage treatment and disposal units in unincorporated areas of the counties are within the jurisdiction and authority of the county or township health officials. They should be supervised and inspected at regular intervals by a qualified engineer in the health commissioner's office. In the past, curative measures have been attempted after health menaces develop; preventative measures are by far less costly.

The technique of potable water supply and sewage disposal are highly specialized branches of civil engineering. For correcting health menaces due to unsanitary conditions caused by lack of pure water supply and indifferent sewage disposal, a member of the engineering profession is the logical individual to make investigations and recommendations; health problems involving engineering questions must be solved by qualified engineers.

At the present, all sewage entering the Mississippi River through the various sewer outlets is discharged in a raw condition without treatment of any kind. It has been considered that the flow of the Mississippi River is sufficient and the consequent dilution of the sewage so great that the resulting contamination is not appreciably detrimental to general living conditions or to reasonable uses of the water of the Mississippi River below St. Louis.

The practice of discharging all of the untreated sewage into the Mississippi River will probably become very unsatisfactory. With the more intensive development of the region, more general uses of the river water below St. Louis for various purposes and the greater use of the river itself both for transportation and for recreation, higher sanitary standards will ultimately be required. Studies regarding the methods and means of removing the raw sewage discharge from the river should be undertaken in the near future.

Drainage

Because of the great expense of closed storm sewers, it is of the utmost importance to the community that the open watercourses be preserved. To accomplish this satisfactorily, easements should be acquired at the earliest possible time, that is, while the land is still, in most instances, vacant and inexpensive. These easements may be of three different types. For streams running through industrial areas, it is desirable to straighten the channels as much as possible, consequently, the easements will be of moderate width, but must be worked out along specific improved alinement, must be protected from encroachment and restriction, but need no bordering roadway except possibly narrow roads as means of access for maintenance purposes. For residential districts, except those of the most exclusive type, it is desirable to disturb existing watercourses as little as possible, and easements should, therefore, be of such width as to cover the convolutions of the stream and to provide room, in addition, for bridle paths and boulevard drives. Where the land is cheap the whole of the low lands may reasonably be so taken. Easements of this type should be subject to park and parkway development.

In the exclusive residential districts where the lot owners are willing to spend considerable sums for the beautification of the valleys, easements may be nominal in character and the authority sufficient only to secure a uniform type of development and to prevent undue restriction of the watercourse.

In the flat areas of the east side, where the existing lakes have an important function in storing and releasing the storm water, these lakes and their shores should be taken over by the community and may be then developed for recreation facilities by a cooperating park board. Particular attention is called to the importance of Horseshoe Lake in the Cahokia drainage system. It has been found that the use of this lake for storm water storage permits of reducing the main outlet channel of Cahokia Creek to less than one-half what would otherwise be required, and permits of reducing the cost of pumping facilities by possibly a million dollars. It is, therefore, of primary importance to the east side that this lake should not be reclaimed for any other purpose, unless the industrial land in this vicinity is prepared to carry an additional tax burden on that account in excess of a million dollars.

Water Supply

The water systems are now generally adequate and the different companies will undoubtedly continue to keep their development abreast of the population growth. Coordination of water supply facilities is desirable, however, and much duplication could be avoided. On the west side of the river all of the urban areas, with the possible exception of Kirkwood, should be served from a single agency. This would involve some additional distribution facilities in St. Louis County.

Recreation

Public parks are essential in any urban community. They afford opportunities for recreation and education; preserve outstanding topographical and geographical features; generally improve the appearance of the city and add to the health and welfare of the citizens.

Three major types of park and recreational areas should be found in every metropolitan region. Of

first importance are the playgrounds and playfields, which are usually acquired as part of the site of public schools where they serve the recreational needs of children and youths. The second type is the local or neighborhood park, which will be of value to both children and adults. As a general standard every square mile of residential area should contain a neighborhood park of not less than 20 acres, and preferably more where possible. The third major type is the large park, which can be used for active recreational opportunities or for natural scenery. These large parks should be located either within or just outside the urbanized portion of the region. They should provide numerous forms of recreational facilities, including drives, trails, picnic areas, game fields, golf courses, special features and large unspoiled areas of natural scenery. All large parks should be connected by a system of parkways.

A commonly accepted standard is 1 acre of park land for each 100 persons. The adequacy of a comprehensive park system, however, is dependent upon proper distribution of the various types of parks, appropriate design and maintenance.

Existing Recreational Facilities Within the Region

An analysis of the location and size of existing park and recreational areas within the St. Louis region reveals many defects and inadequacies.

Elementary Schools

The distribution of elementary- and high-school grounds within the region are graphically shown in figure 24. There are 833 elementary-school sites, of which 453 are within the metropolitan district. There

FIGURE 23.—Fairgrounds Park and surroundings, St. Louis. Local neighborhood parks are needed in each residential district to furnish breathing spots in what otherwise would be a continuous mass of buildings

are 508 elementary-school districts. The school district in the City of St. Louis contains 821,960 persons, whereas in the remaining 507 districts there is an average of 1,123 persons per district. The average enrollment is 316 children per school in the metropolitan district and 38 children per school in the balance of the region. Improved standards and great economy should result from consolidating schools in many of the sparsely settled districts.

It is a commonly accepted standard that the area of every elementary school site should not be less than 5 acres. Data regarding area of present school sites are shown in table VIII. Only 26 schools, or 3 percent of the total, contain 5 acres or more. There are 683 school sites containing less than 2 acres, and these schools accommodate nearly 63 percent of the total school enrollment. Twenty-four sites of standard size of 5 acres are found in the metropolitan district and the majority of these are in the city of St. Louis, where land values are highest.

Practically all of the school grounds within the city of St. Louis have improved surfaces, which permit of full utilization of the area. Only a few school grounds in the outlying areas are properly improved. Only 17.6 percent of the elementary schools contain gymnasiums and practically all of these are found within the metropolitan district.

It is evident that the playground facilities within the St. Louis region are far below the desirable standards. While conditions are somewhat better in the metropolitan district, many improvements are needed.

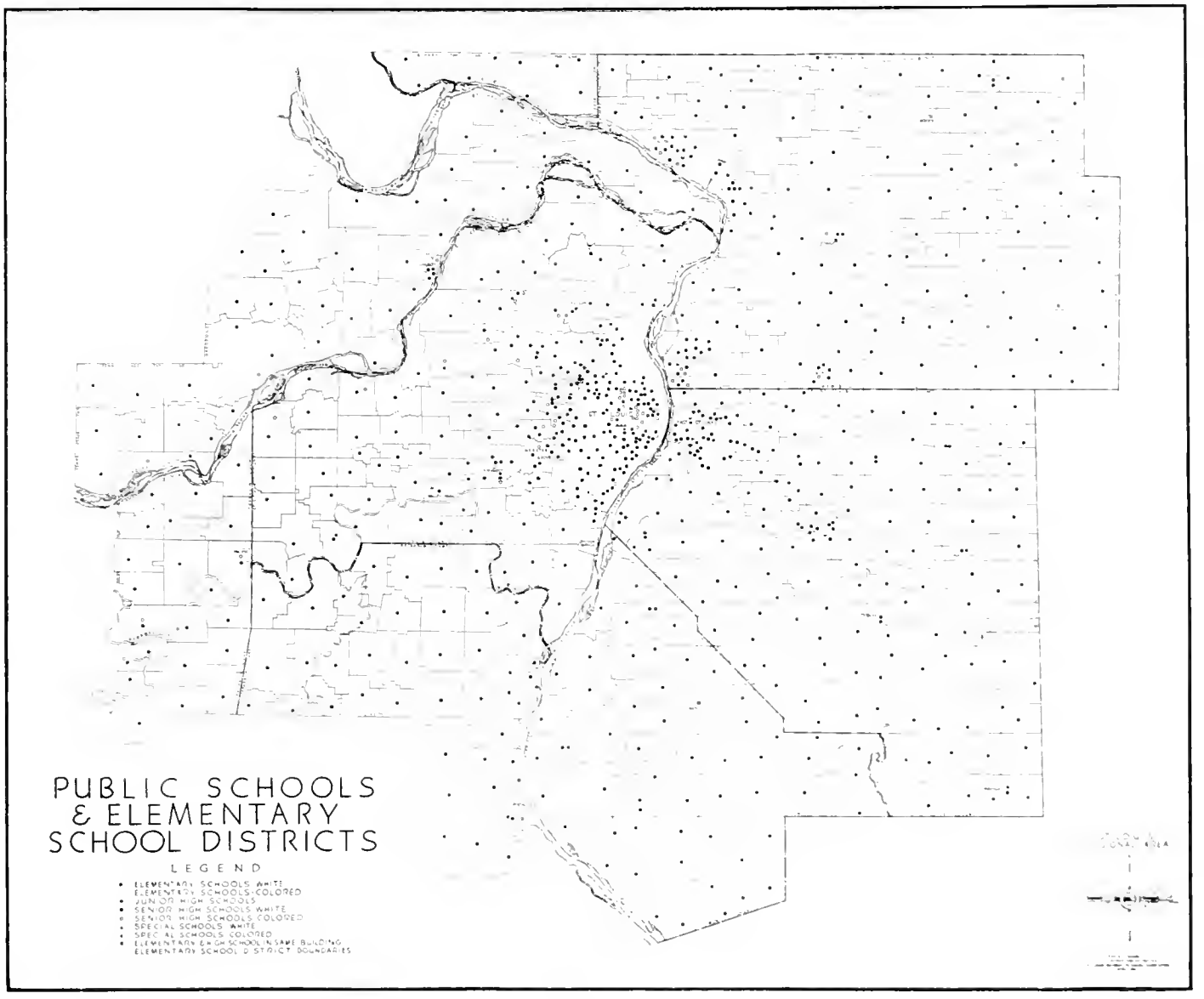


FIGURE 21

TABLE VIII.—*Area and enrollment at public elementary schools, 1933—St. Louis regional area*

County	0 to 1.99 acres		2 to 2.99 acres		3 to 3.99 acres		4 to 4.99 acres		5 acres and over	
	Schools	Pupils	Schools	Pupils	Schools	Pupils	Schools	Pupils	Schools	Pupils
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Jersey	9	388	0	0	0	0	0	0	0	0
Madison	150	17,390	9	2,096	2	704	2	431	2	493
Monroe	53	1,357	1	23	1	18	0	0	1	187
St. Clair	153	11,868	19	5,733	6	2,083	0	0	3	965
Franklin	21	664	3	127	0	0	0	0	1	45
Jefferson	47	1,831	2	476	0	0	0	0	1	446
St. Charles	54	1,796	1	22	0	0	0	0	0	0
St. Louis	111	13,749	22	4,223	10	2,502	9	2,765	14	3,862
St. Louis (city)	85	49,494	22	17,593	9	6,668	6	4,694	3	2,793
Total St. Louis regional area	683	98,537	79	30,293	27	11,975	17	7,890	26	8,791
Total St. Louis metropolitan district	327	87,252	63	28,051	25	11,673	16	7,848	22	8,268
Total balance of region	356	11,285	16	2,242	2	302	1	42	4	523

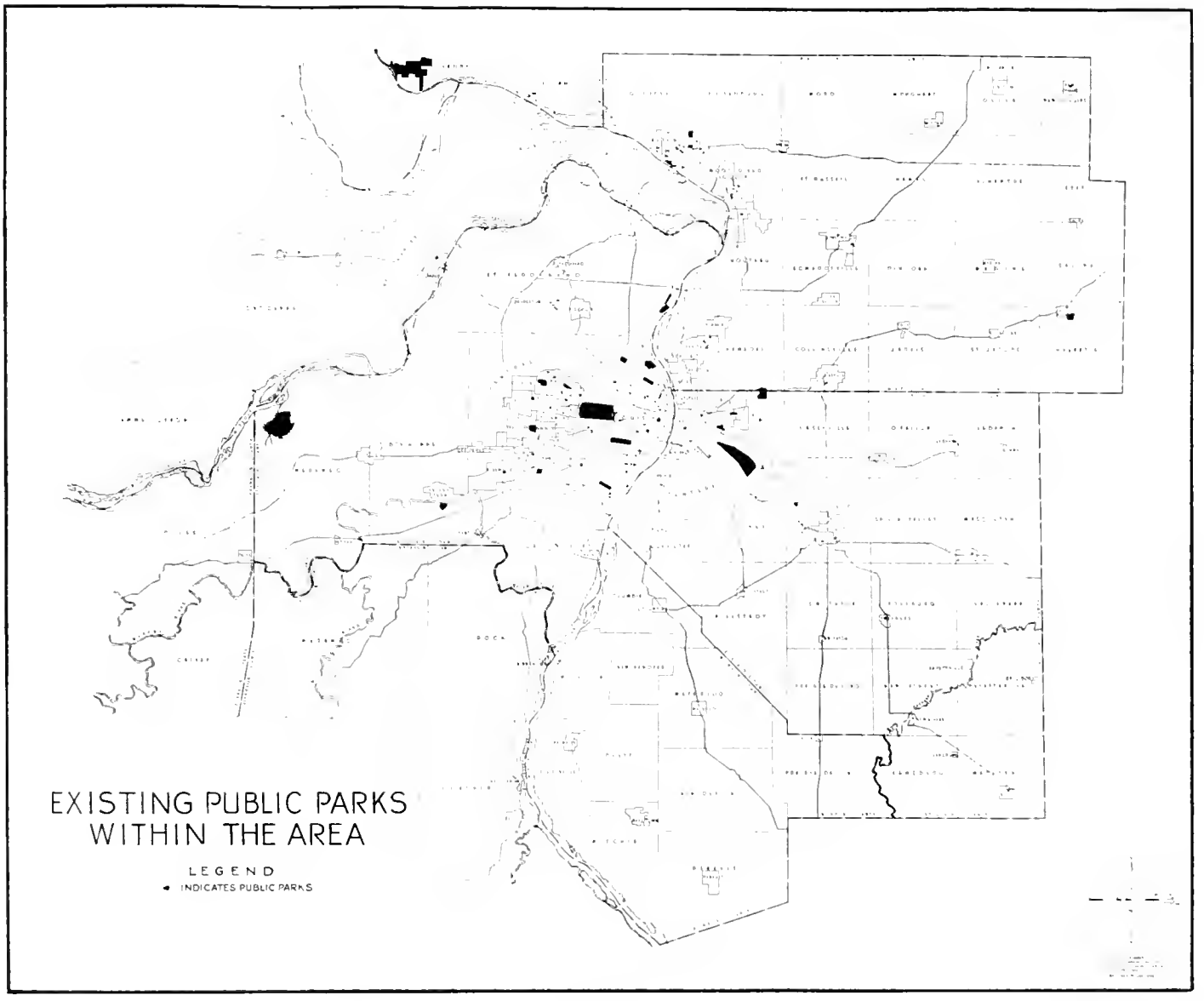


FIGURE 25

The existing major defects are (1) improper location in relation to existing and probable future distribution of population; (2) inadequate area of site; (3) unsatisfactory improvement of site; (4) too many small school districts in outlying areas, and (5) utilization of school grounds, for recreation only during school hours, instead of during out-of-school periods, when there is greatest need for supervised play.

Playfields at High Schools

Data regarding playground facilities at the high schools are contained in table IX. The average area of the 75 sites within the region is only 4.5 acres, whereas the accepted standard requires 15 acres for junior highs and 25 for senior highs. Only 2 of the 75 school sites have 20 acres or more, and only 11 have more than 10 acres. While some of the youths can utilize the parks for their recreational activities, extensive enlargements and improvements should be made at the public schools.

Park Areas

The present distribution of public parks within the region is graphically indicated in figure 25. The majority of these areas are located in the incorporated communities, particularly St. Louis, University City, East St. Louis, and Alton. Only a few of the more outlying communities have any park facilities. There are only four parks within the entire region containing more than 500 acres. Two of these, Forest Park and Lake Park, are located within the urban portion of the region. The other two, the Edmund A. Babler Memorial Park and the Pere Marquette State Park, are fine scenic tracts in the outlying areas and are now in the process of development. A few sections of parkways have been developed in different communities, but there is no semblance of a parkway system within the region.

Table X enables a more detailed analysis of the existing park facilities. A total of 8,173 acres of park area are found within the region, of which 4,961 acres, or 60.7 percent, are located in the metropolitan district. In the metropolitan district 0.38 acre of park area is available for every 100 persons, which is considerably below the desirable standard. A higher ratio is found in the balance of the region, primarily because of the two large State parks.

Table XI reveals the present inadequacy of the number and area of neighborhood parks. Only 38 such areas are found within the region and nearly half of these are within the city of St. Louis. Several sections of the region have none of these essential areas, and no city has an adequate system of neighborhood parks.

TABLE X.—*Public park area in each county, 1935—St. Louis regional area*

County	Total population (1930)	Municipal park area (acres)	County and State park area (acres)	Total park area (acres)	Acres of park per 100 persons
Jersey [1]	1,929	2	1,670	1,672	86.61
Madison	143,830	272	34	306	.21
Monroe	12,369	0	0	0	0
St. Clair	157,775	1,397	110	1,507	.96
Franklin [1]	4,621	0	0	0	0
Jefferson [1]	16,854	0	0	0	0
St. Charles [1]	20,453	37	0	37	.18
St. Louis	211,593	247	1,518	1,765	.83
St. Louis (city)	21,960	2,886	0	2,886	13.35
Total	1,391,384	4,841	3,332	8,173	.59
Total for St. Louis metropolitan district	1,296,191	4,816	145	4,961	.38
Total for balance of region	95,193	25	3,187	3,213	3.37
Total for incorporated communities	1,191,454	4,813	0	4,813	.40

[1] Indicates only that portion of county included in the region.

There are several private or semipublic areas which provide recreational facilities and opportunities. Golf

TABLE IX.—*Area and enrollment at public high schools, 1933—St. Louis regional area*

County	0 to 1.99 acres		5 to 9.99 acres		10 to 19.99 acres		20 acres or over	
	Schools	Pupils	Schools	Pupils	Schools	Pupils	Schools	Pupils
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Jersey	1	60	0	0	0	0	0	0
Madison	12	1,576	4	2,582	1	112	1	822
Monroe	2	245	0	0	2	108	0	0
St. Clair	6	3,831	2	290	2	395	1	1,129
Franklin	1	72	0	0	0	0	0	0
Jefferson	4	527	0	0	0	0	0	0
St. Charles	2	62	2	438	0	0	0	0
St. Louis	11	2,338	5	4,258	2	2,270	0	0
St. Louis (city)	10	11,183	2	4,094	2	6,367	0	0
Total St. Louis regional area	49	19,894	15	11,662	9	9,252	2	1,951
Total St. Louis metropolitan district	30	18,232	9	9,696	5	8,926	2	1,951
Total balance of region	19	1,662	6	1,966	4	326	0	0

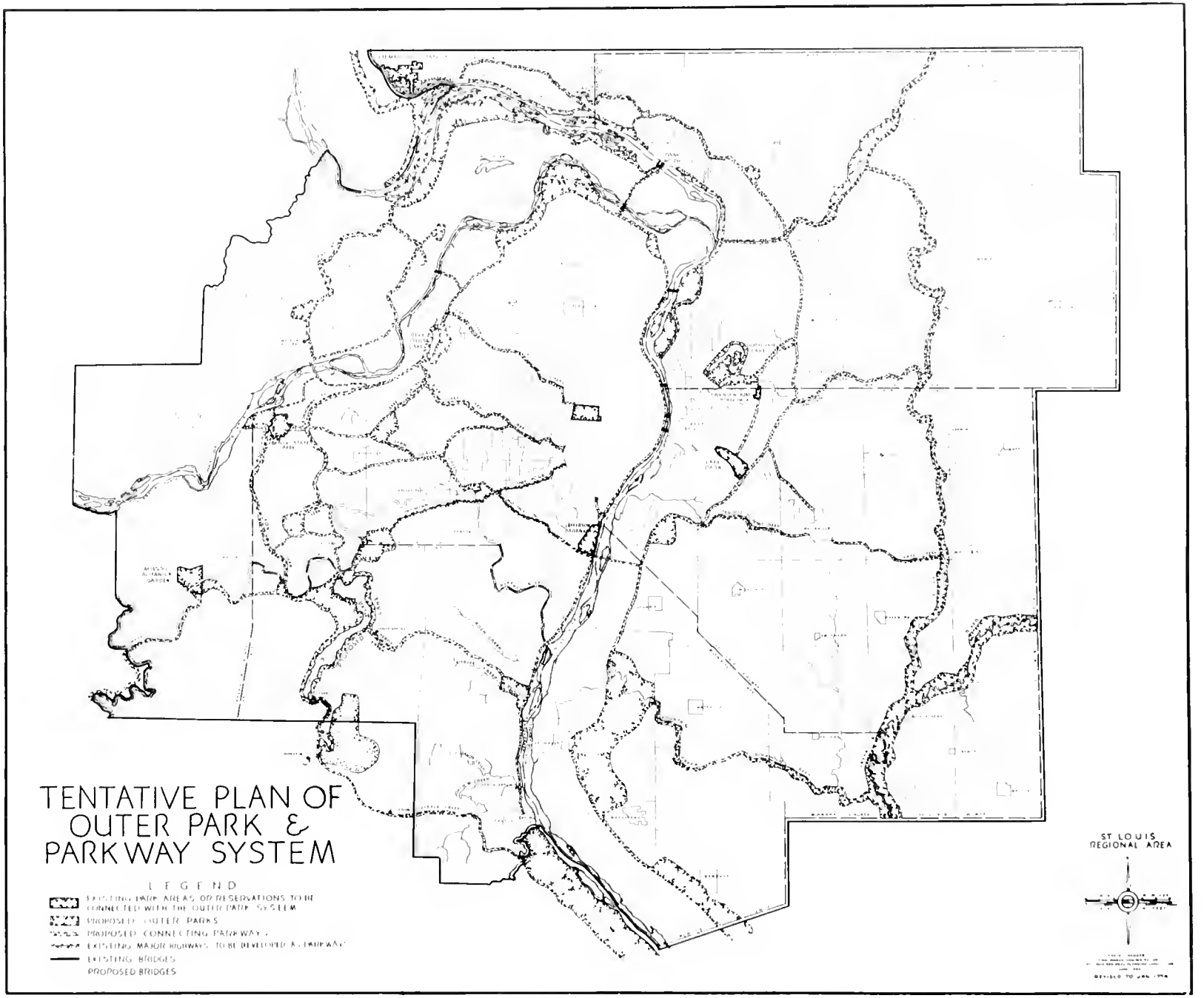

TENTATIVE PLAN OF
OUTER PARK &
PARKWAY SYSTEM
LEGEND
EXISTING PARK AREAS OR RESERVATIONS TO BE CONNECTED WITH THE OUTER PARK SYSTEM
PROPOSED OUTER PARKS
PROPOSED CONNECTING PARKWAYS
EXISTING MAJOR HIGHWAYS TO BE DEVELOPED AS PARKWAYS
EXISTING BRIDGES
PROPOSED BRIDGES
ST. LOUIS
REGIONAL AREA

FIGURE 26

courses are an important recreational facility. These are widely distributed, particularly in St. Louis County, where they form somewhat of a belt around the urbanized section. There are several other recreational areas, such as waterworks and arboretums, which are of interest to many persons, but which cannot supply the full service usually furnished by public parks.

Future Recreational Needs Within the Region

The increasing importance of recreational facilities and the inadequacy of the present systems indicate that many improvements are essential.

The necessary facilities can be divided into two general types. The first includes school playgrounds, playfields and neighborhood parks, which are primarily of local interest. Responsibility for providing these facilities lies with the proper authorities in the different communities. The regional plan is concerned with establishing desirable standards of location, size, and character of development of these facilities. The data regarding the future distribution of population, which has now been developed, will enable the local communities to prepare comprehensive programs of acquisition and development in accordance with future needs.

TABLE XI.—*Classification of public parks according to types 1935—St. Louis regional area*

County	Large parks		Neighborhood parks		Playgrounds and recreational parks		Squares and plazas	
	Number	Area (acres)	Number	Area (acres)	Number	Area (acres)	Number	Area (acres)
Jersey [1]	1	1,670	0	0	0	0	2	2
Madison	2	114	5	80	10	87	15	26
Monroe	0	0	0	0	0	0	0	0
St. Clair	3	1,370	8	107	3	8	12	23
Franklin [1]	0	0	0	0	0	0	0	0
Jefferson [1]	0	0	0	0	0	0	0	0
St. Charles [1]	0	0	1	37	0	0	0	0
St. Louis	2	1,590	8	158	6	11	4	7
St. Louis (city)	8	2,362	17	369	31	66	7	26
Total	16	7,106	39	751	50	172	40	84

[1] Indicates only that portion of county included in the region.

The second type of recreational facility which is most needed includes the large outer parks and parkways. These are of interest to all persons within the region, and one central agency, or at least one agency in Missouri and one in Illinois, should be responsible for their acquisition and development. The regional plan includes recommendations concerning the location and extent of these facilities. The more outstanding needs are as follows:

School Grounds and Neighborhood Park Needs

Larger sites are generally needed at the elementary and high schools. Some of the existing sites can be enlarged, but others should be abandoned, and new sites acquired where they would more effectively serve the neighborhood. Additional playfield facilities are especially needed at the high schools as well as in public parks.

Additional neighborhood parks are necessary throughout the region, especially in the urban sections. A number of residential districts are now without this important facility. In these districts it may prove desirable to acquire additional area at the school grounds in order to provide a combined park and playground. In newly developing sections of the region many excellent opportunities are still available for acquiring the necessary sites, but early action is essential.

Outer Park and Parkway System

This type of recreational facility is especially needed within the St. Louis region. Figure 26 is a tentative study of the different areas and routes that might comprise the system. While there is need for much additional study and investigation, the plan indicates splendid possibilities for large park areas and for parkways.

The region abounds in rivers, rugged topography, wooded areas, and other interesting scenic qualities providing fine park sites. Their character and the method of distribution would insure a representative system of wide variety and interest. The parkways are primarily located along the streams and on certain well defined ridges. The majority of the streams should be protected against the encroachment of private development in order that they may carry surface drainage and eliminate the need of expensive sewer construction. This objective is accomplished by locating a parkway along a stream, with a pleasing route provided for pleasure driving. Park and drainage authorities should cooperate in this matter. A system of parkways would have great recreational value and would also tend to relieve congestion upon the more important highways.

The dam on the Mississippi River (dam no. 26) now being constructed at Alton by the Federal Government will create a large body of water abounding with opportunities for water sports. A driveway along both shores of this lake, giving access to several public bathing beaches and boat harbors, will provide the citizens with a form of recreation that is much needed in this area. The Regional Planning Commission has prepared a general plan for the proposed development of the shores of the Alton lake. A large amount of

the land necessary for the proposed improvements has already been acquired along the Illinois shore. The high bluffs here are one of the most outstanding scenic assets of this region.

The outer park and parkway system should preferably be administered by one agency, but since it will be located in two States, it may at first be necessary to have at least two administrative bodies. An excellent act is now available in Missouri which would enable the creation of a single administrative agency to acquire, develop, and maintain the Missouri portion of the system. A referendum vote by the citizens in the proposed district would be necessary to obtain advantages of the act. Such a vote should be taken at the earliest possible date.

Illinois has a somewhat similar act which would enable the development and maintenance of an outer park system within this section of the region. A single agency could be established for the three larger counties, or, if it be deemed more desirable, a separate administrative agency could be established in each county.

Housing

Satisfactory living conditions within a city or region are determined by the character of housing facilities available to the majority of people. Most American cities, the St. Louis Region included, have grown rapidly in population and in area through the construction of large numbers of new houses in outlying areas. There has been comparatively little public control of the types of houses or of population density. The provision of housing facilities has been motivated largely by speculative practices. In recent years it

FIGURE 27.—Jones Park and vicinity, East St. Louis. Note the intermingling of railroads, highways, residential and industrial development, and large vacant areas, which will require careful future planning

has become evident that the lack of a housing program based upon public need has resulted in overcrowding in some areas, too scattered development in others, an inadequate supply of well-designed low-cost houses, and the growth of large blighted districts and slum areas.

Existing Housing Conditions

The St. Louis district has never suffered from excessive overcrowding of land as compared with many older cities. In much of the urbanized portion of the region there has been a fairly normal occupation of land by dwellings, although there has been considerable scattering of dwellings in outlying sites and towns. The lack of adequate standards of utility services for new areas and of adequate maintenance standards in old areas are the most important housing problems here. Particularly serious are the large areas of residential property in which there is much depreciation of value and deterioration of buildings.

Types of Housing Facilities

The cities of St. Louis and Clayton are the only communities in which the majority of new living units were provided for in apartment buildings. In the suburban towns the single family home is by far the most popular type. Even in East St. Louis, the second largest city within the region, only 4.4 percent of the living units constructed between 1920 and 1933 were in apartment buildings. University City, Clayton, and Maplewood contain a number of apartment buildings, but such structures are generally located immediately adjacent to the city of St. Louis. While data has not been available for all communities within the district, a field survey indicates that single family residences comprise the large majority of dwelling units.

Ownership and Value of Homes

Table XII indicates the number of homes which are owned or rented within incorporated communities. Approximately 63 percent of the total number of homes in the district are rented, but the majority of these are in the city of St. Louis where more than twice as many homes are rented than are owned. By far the greater majority of homes in suburban cities such as Webster Groves, Kirkwood, and Belleville are owned by the occupants.

The values of the owned homes within the different communities are shown on table XIII. The cities of University City, Webster Groves, and Clayton are the only ones in which the higher priced homes ($10,000 or more) predominate. In direct contrast with these three cities are Madison, Venice, and Washington Park, where more than 50 percent of the homes have a value of less than $3,000. The latter communities are either within or adjacent to large industrial districts and the homes are occupied by factory operatives whose wages are usually too low to permit home ownership. This table gives a general idea of where low cost housing facilities might be developed within the region. In Venice, for instance, 76.7 percent of the rented homes were let for less than $20 per month. Well-designed low-cost homes would be of great benefit in this community.

TABLE XII.—*Number of owned and rented homes in certain communities, 1930—St. Louis metropolitan district*

Community	Owned homes	Rented homes
St. Louis	67,193	143,881
East St. Louis	7,876	10,534
Belleville	4,576	2,983
Alton	3,967	3,553
University City	3,413	3,228
Webster Groves	3,136	861
Granite City	3,074	3,061
Maplewood	1,857	1,432
St. Charles	1,542	1,105
Kirkwood	1,536	712
Collinsville	1,504	858
Richmond Heights	1,358	1,018
Clayton	1,242	1,283
Wood River	1,065	899
Edwardsville	1,036	599
Madison	1,020	817
Ferguson	651	245
Venice	649	663
Washington Park	646	291
East Alton	482	587
Brentwood	469	234

Source of data: Federal Census Metropolitan St. Louis, by Tracts 1930. Published by the Research Committee of the St. Louis Community Council.

Areas of Undesirable Housing

The largest areas of bad housing or slums are found in the City of St. Louis and East St. Louis. In St. Louis there is a large compact section of low-grade housing surrounding the central business district. While considerable commercial and industrial development is found within this area it is mainly residential in character. The buildings are quite old, in a poor state of preservation, and of obsolescent design. Very little open space is available. Brick construction predominates and, while some of the buildings may appear substantial, the interiors are usually in a dilapidated and unsatisfactory condition.

The areas of bad housing in East St. Louis are more widely scattered. Several differences are noted in the character of the structures found in the East St. Louis and the St. Louis areas. While all of the houses in both cities are quite old, those in East St. Louis are primarily of frame construction and present a worse appearance. There are larger lots and more

TABLE XIII *Percentages of owned homes in certain communities according to values,[1] 1930 St. Louis metropolitan district*

Community	Under $1,500	$1,500 to $3,000	$3,000 to $5,000	$5,000 to $7,500	$7,500 to $10,000	$10,000 to $15,000	$15,000 to $20,000	Over $20,000	Not known	Total number of owned homes
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	
St. Louis	2.1	9.5	22.6	27.0	16.2	13.9	4.5	3.2	1.0	67,193
East St. Louis	9.9	19.8	27.1	25.7	7.7	4.1	1.0	.5	4.2	7,876
Belleville	6.1	21.0	30.7	22.8	7.6	6.5	2.0	1.1	2.2	4,570
Alton	5.3	16.3	30.8	27.8	8.6	6.5	2.0	1.5	1.2	3,967
University City	1.1	3.7	8.4	11.5	6.4	16.8	20.7	30.2	1.2	3,443
Webster Groves	3.5	3.8	9.5	20.0	17.6	21.6	10.8	12.1	.8	3,136
Granite City	6.1	19.2	33.8	26.1	6.2	4.8	1.4	1.2	1.2	3,074
Maplewood	.9	6.1	20.8	40.1	18.2	10.0	2.0	1.3	.6	1,857
Kirkwood	3.1	9.9	18.8	23.1	15.8	16.3	5.1	6.1	1.8	1,542
St. Charles	8.2	23.9	31.3	24.5	5.2	4.6	.9	.7	.7	1,536
Collinsville	7.2	28.0	34.6	21.4	22.9	2.2	.9	.9	1.9	1,504
Richmond Heights	1.7	4.8	10.0	18.3	27.7	22.9	7.1	6.7	.8	1,358
Clayton	1.1	1.3	3.0	4.5	3.8	13.6	17.5	54.8	.4	1,242
Wood River	4.6	13.8	42.4	30.4	1.0	2.9	.7	.4	.8	1,065
Edwardsville	2.9	14.0	30.2	29.8	8.9	8.2	2.0	2.7	1.3	1,036
Madison	16.8	32.3	26.9	13.7	3.6	3.3	1.2	.8	1.4	1,020
Ferguson	2.0	7.7	18.4	33.8	14.3	15.3	4.3	3.1	1.1	651
Venice	44.6	30.0	15.9	5.7	.9	.6	.15	.15	2.0	649
Washington Park	18.9	37.0	27.7	13.6	.3	.3	0	0	2.2	646
East Alton	5.4	31.7	48.0	10.4	2.1	1.0	0	.2	1.2	482
Brentwood	5.2	9.4	27.2	43.3	8.0	5.2	.2	1.3	.2	460

[1] Indicates values; do not include land cost

Source of data: Federal Census Metropolitan St. Louis, by tracts, 1930. Published by the Research Committee of the St. Louis Community Council.

open space about the East St. Louis homes and, since a large number of them are single family dwellings, there is less population congestion.

There are several other areas of bad housing on the east side of the river, especially in or near the towns of Brooklyn, Venice, Madison, and Granite City. These areas are usually in close proximity to railroad and industrial districts. Practically all of the homes are single-family dwellings, of cheap frame construction, and the majority are in a poor state of preservation. Sewers and other sanitary facilities are generally inadequate. The dwellings have considerable open space about them and there is no excessive concentration of population, but these are their only redeeming features.

Only a few bad housing areas are found west of the city of St. Louis. The Kinloch area near Ferguson, used by colored people, is the worst example. For the most part these are frame dwellings or shacks with inadequate sewer and sanitary facilities, but with no excessive overcrowding of the land.

Slum Areas

The City Plan Commission of St. Louis made a survey of five areas in the district surrounding the central business section. The five areas contained a total of 414 acres. There were 8,447 living units with but 2,566 bathrooms. Thus 69.6 percent of the living units either had no bath facilities whatever, or the occupants were compelled to use a bathroom in conjunction with other families. The survey also revealed that there were only 5,808 toilets, of which 2,323, or 40.0 percent, were located outside of the buildings. Thus only 41.3 percent of the living units had inside toilets.

The areas surveyed in East St. Louis comprised 206 acres and contained 1,478 living units. Only 454 bathrooms were found, and 64.0 percent of the families had no access to any bath facilities. There were 843 outside toilets. Approximately 65 percent of the residential structures were classified as being in a poor or dilapidated condition.

Both surveys indicated that social and health conditions are much worse in the slum areas than in other sections of the city. In East St. Louis the number of child delinquents per 100 persons was three times as great, and the number of arrests was 22 times as great, in the areas surveyed, as in the entire city. In St. Louis the tuberculosis morbidity rate was three times as great in the slum areas as the average rate for the entire city.

These conditions indicate that areas of bad housing are economic and social liabilities of general concern. The health and welfare of all citizens as well as of those living within the slum areas are adversely affected. A program of slum clearance should be given early consideration.

Future Housing Needs

Improved housing conditions are among the most important needs of the St. Louis Region. A housing program for the region would include:

1. Determination of the volume and character of new housing needed within the next ten years.
2. Rehabilitation of blighted districts.
3. Slum clearance.
4. Neighborhood organization for protection of environment.

New Housing

The regional plan has generally indicated the probable extent and method of organization of the urbanized portion of the metropolitan district. Much of the vacant land within this district should be developed with new housing facilities, mostly single family dwellings. Practically all of this new development will be undertaken by private initiative, but some public assistance is essential, particularly in regulatory and protective measures.

In this new development it is important that house types be developed in accord with future economic needs; that desirable standards of population density and of building construction be enforced; and that there should not be unnecessary scattering of development.

Rehabilitation of Blighted Districts

The older residential districts which are depreciating in value and in character constitute one of the most serious problems in this region. They can never be absorbed by commercial and industrial uses. Even if owners wished to build new homes within them, it would be inadvisable because of the present character of the districts. If these districts are ever to be rehabilitated there must first be a rezoning which is in keeping with the present and probable use of land. There must also be developed better standards of property maintenance such as the enforcement of sanitary laws, removal of obsolete buildings, gradual elimination of nonconforming uses of property, reconditioning of buildings and general cleanliness. The creation of an improved environment is the basic desideratum, as well as the maintenance of that improved environment by an alert organization of property owners. Of assistance also would be the power to reestablish protective restrictions to supplement the zoning regulations. This would require a legislative enactment.

Slum Clearance

There should be a program of slum clearance within the region. The plans prepared by the City Plan Commission in St. Louis and by the local housing authority in St. Clair County should be brought to the attention of public authorities and of Federal agencies engaged in housing matter. The St. Louis Region is one of the few large metropolitan communities that has not received Federal assistance in housing. Whatever may be the nature of a Federal housing policy in the future the St. Louis district should be prepared to secure equitable consideration and participation in any national program.

There is no longer any question as to the justification for slum clearance, nor is there question of the need for some form of subsidy for those citizens unable to pay an economic rent. Where low-cost housing should be built, and whether subsidies should be in the form of building subsidy or rental subsidy, are matters for local consideration.

The regional plan furnishes authoritative data for local housing projects. A regional planning authority should undertake the preparation of a complete housing program.

Neighborhood Organization for Protection of Environment

Good housing standards throughout the region cannot be entrusted entirely to private initiative. There must be some form of public regulation and control. A few cities now have building codes, sanitary laws, and zoning ordinances. Most of the region and much of the metropolitan district are without adequate protection for the public need. These controls should be extended to all areas of urbanization. A regional planning authority with power to extend these controls could perform an invaluable public service in this respect.

Beyond these public controls, however, there is need for improved standards of housing through organized neighborhood interests. In the more expensive subdivisions there are private restrictions which help to protect environment and preserve the character of home neighborhoods. Protection of this sort should not be exclusively for the more expensive developments. There should be some form of legislation permitting a majority of property owners to organize and adopt restrictions which would aid in the establishment and maintenance of satisfactory environment. Legislation of this character is now being considered. It should be of great aid to the future development of the region.

SECTION V
PROGRAM OF PUBLIC IMPROVEMENTS

There is always need for new public improvements in a large metropolitan district. Obsolete and worn-out structures must be replaced, and additional public works must be provided for the accommodation of new population. Technological advance produces need for new types of public improvements.

One of the most opportune times in which to undertake an extensive public-improvement program is during a period of economic depression. Much direct employment can be provided, with possibly an equal or even greater amount of indirect employment. By thus adding to the sum total of permanent improvements the public welfare is substantially enhanced. A long term capital expenditure budget, supplemented by an annual public-works program, substitutes systematic expenditure in definite relationship to income in place of sporadic expenditures motivated by momentary enthusiasms and emotions. The regional plan suggests improvements that will be of greatest permanent public value.

During the past few years many public improvements have been made within the St. Louis Region. The majority of these have been partly or entirely financed by the Federal Government, through its emergency agencies, the Public Works Administration, Civil Works Administration, Federal Emergency Relief Administration, and Works Progress Administration. These improvements have provided much employment and have enhanced the convenience and welfare of the citizens.

The following projects have been initiated or completed in the St. Louis Region under the Public Works Administration program:

Missouri

Location:	*Type of project*
City of St. Louis	Auditorium, highway bridge, housing project, hospital extensions and additions (3); park improvements (2), sewer extensions (2), schools (2), soldiers' memorial, street improvements, viaducts, various projects, such as minor improvements to public buildings, water mains.
St. Louis County	Schools (2), various highway improvements.
Webster Groves	School, sewer system.
St. Johns	School.
Overland	Do.
Eureka	Do.
Clayton	School additions (2).
Pattonville	School addition.
Kirkwood	Sewage disposal plant.
St. Charles	Filtration plant.
Brentwood	City hall.
University City	Schools.

Illinois

Location:	
East St. Louis	Drainage, paving (2).
Alton	Paving, school.
East Alton	Paving (2).
Edwardsville	Sewer, school.
Collinsville	Paving, sewer.
Highland	Power and light plant, school.
Caseyville	School.
Belleville	Do.
Waterloo	Sewer.
Grafton	Waterworks.
Freeburg	Do.
Mascoutah	Do.
Marissa	Do.
Wood River	Gymnasium.
Madison County	Highway (2).
St. Clair County	Highway.
Roxana	School.
St. Jacob	Do.

Several million dollars have also been expended upon the civil or relief work projects. These include street, park, and school-ground improvements, straightening streams, installing sewer laterals, and many professional and technical projects of a varied nature. They have improved existing conditions and contributed to the future welfare of the region.

Future Public Work

Some of the general types of public-improvement projects that should be undertaken in the future are listed below. The first group includes those improvements that will be of benefit to practically all persons within the entire region. The improvements in the second group will afford major advantages to the local communities, but the entire region will generally benefit from them.

Projects of Regional Interest

Construction of new bridges over the major rivers.

Navigation and flood-control improvements on the Mississippi and Missouri Rivers.

Construction of new major highways and widening of existing highways.

Elimination of railroad grade crossings.

Elimination of grade crossings at the intersection of major highways.

Development of outer parks and parkways.
Clearing and rebuilding of slum areas.

Projects of Local Interest

Additions and improvements to sewer facilities including disposal plants.
Improving streams to accommodate storm water.
Surfacing local streets.
Construction and repairing of school buildings and playgrounds.
Development and improvement of neighborhood parks.
Construction of public buildings including hospitals and schools.
Planting of trees along public streets and highways.
Projects of a statistical and professional nature.

SECTION VI
FEDERAL AND INTERSTATE PROBLEMS

St. Louis owes its existence chiefly to the Mississippi River. The city's growth has embraced both banks of the stream and much of the hinterland. In physical characteristics and in social and economic development the St. Louis Region is in reality one great city. It cannot function as a natural unified city, however, because of the awkward arrangement of political boundaries. The presence of the State boundary line in the Mississippi River interposes an artificial dividing line through the very center of what should be one undivided city. This political separation gives rise to numerous interstate and Federal problems.

The natural characteristics as well as the political framework of the St. Louis Region are such that the Federal Government and the States of Illinois and Missouri have always had a particular interest here. The confluence of two of the great rivers of the Nation produces problems of something more than ordinary concern to Nation, State, and local communities. These problems are not the exclusive concern of any one authority, for whatever is done with any of these problems by one government will influence the administrative policy of government in each of the other levels. The public welfare will be served to best advantage by coordinated action of public authorities having charge of public works in each of the cities, counties, both States, and the Nation. There should be careful advance planning of major public works preferably by a single authoritative regional planning agency.

Specific projects or problems in which national, State, and local governments have mutual interest include:

1. River navigation.
2. Port development.
3. Railroad freight interchange.
4. River crossings—bridges.
5. Flood control and water conservation.
6. Dams, lakes, and recreational facilities.
7. Jefferson National Expansion Memorial.
8. Public health and sanitation.

The whole pattern of local development within the St. Louis Region will be influenced to a large extent by the administrative policies of the Federal Government and of the States in each of these several matters. Local communities must accept administrative controls of State and Federal Government not merely because of their greater powers under our political system but because their wider jurisdiction gives wider understanding of what are presumably the dominant considerations in the public interest and welfare.

River Navigation

European nations have made more extensive use of inland waterways than has the United States. Since 1920 a national inland waterway policy has been developing. The Federal Government has recently undertaken to provide a 9-foot channel on the Mississippi River from St. Louis to Minneapolis, on the Illinois River to Chicago, and a 6-foot channel on the Missouri River from St. Louis to Kansas City. St. Louis is the headquarters for much of this work, upon which something over two hundred million dollars is being spent. In addition to building and maintaining navigable channels on the Mississippi River, the Federal Government has operated a barge line service for several years on the Mississippi River and several of its tributaries. St. Louis is the logical center of the service.

In order to secure adequate depth of water for navigation on the rivers within the St. Louis Region considerable river straightening has been necessary on the Missouri River, a new lock and dam is now under construction in the Mississippi River at Alton, Illinois, and a low dam has been considered in the vicinity of Sawyer's Bend near the Chain of Rocks on the Mississippi River. Federal control of the rivers in the interest of navigation has profound relationship to local development because it determines the location of bridges, the location of waterworks, harbor and dock facilities. The construction of dams and lakes is of particular local interest because of the lack of large bodies of water and the public demand for this type of recreational facility.

Port Development

While St. Louis has never developed large tonnage as a port, the further development of the central inland waterway system will increase the volume of traffic through the port of St. Louis, thus warranting further expenditures both by the Federal Government and local municipalities in improvement of the harbor and dock facilities. The first concrete dock on the Mississippi has been built at St. Louis and additional construction will take place whenever traffic justifies. St. Louis is the second largest railroad center in the United

States and since this city also lies at the center of the inland waterway system there should develop eventually a very large interchange of freight between rail and water carriers.

Large railroad freight terminals exist on both sides of the Mississippi River so that a central port authority eventually may be needed to unify rail-water interchange facilities and service. A central port authority in the St. Louis Region similar to the Port of New York Authority would be desirable in unifying railroad facilities also. Fourteen transcontinental railroads and 12 intrastate railroads now terminate in the St. Louis district. Railroad freight interchange requires much river crossing.

Railroad Freight Interchange

The Federal Government has a direct interest in railroad facilities in this region not only because of the need for coordination with river navigation and the facilitation of interstate traffic, but in case of war the national defense would require the greatest possible freedom of movement of railroad traffic across the Mississippi River and through this very important railroad gateway. All transcontinental lines entering this region, whether from the east or west, end at the Mississippi River. Unification of railroad terminals including river crossing facilities is a most important Federal problem. No existing agency of government, except the Federal Government, is capable of dealing with the problem of unification of terminals. The 14 transcontinental railroads now entering this gateway have formed a jointly owned terminal railroad company. This company owns and operates 391.4 miles of track, switching yards, and terminal facilities on both sides of the river, one interstate bridge, and the Union Passenger Station in St. Louis. It leases and operates a second interstate bridge. Passenger train service is now operated as a unified terminal by the Terminal Railroad Association. Freight traffic, however, which comprises the great bulk of interstate traffic, is not unified, the Terminal Railroad Association acting merely in the capacity of transfer agent.

The Federal Coordinator of Railroads has appointed a local committee of railroad representatives to study unification of terminals in the St. Louis Region but no report has been published as yet. In 1922 a committee of seven engineers, two from eastern and two from western railroads, two from St. Louis, and one from St. Clair County, prepared an extensive report on general improvement of railroad terminals, including unification, which has served as a basis for much subsequent work. Previous to this report the railroads and the cities had reached an impasse which had precluded any improvement of terminals in many years.

Due to inadequate approaches and connections, the St. Louis Municipal Bridge has never been used extensively for railroad traffic, although it is well located for railroad use. These approaches and connections are now being built with funds furnished by the city of St. Louis and the Public Works Administration of the Federal Government. Completion of the Municipal Bridge approaches will be of much aid in eventual unification of railroad facilities here.

River Crossings—Bridges

The location of all bridges in the region has been controlled by the Federal Government in such manner as to cause the least interference with river navigation. While some of the early bridges had highway decks, they were built primarily for the purpose of accommodating railroad traffic. There are seven interstate bridges of which two are used exclusively for railroad purposes, three are combined railroad and highway bridges, and two are used exclusively for highway purposes, as follows:

Interstate Bridges in the St. Louis Region

Name	Location	Owner	Use
1. St Louis Municipal.	Between St. Louis, Mo., and East St. Louis.	City of St Louis..	Railroad and highway.
2 Eads.....	Between St Louis and East St. Louis.	Privately owned. Leased by Terminal Railroad Co.	Do.
3. McKinley.....	Between St. Louis and Venice.	Illinois Terminal Railroad System.	Do.
4 Merchants.....	....do.....	Terminal Railroad Co.	Railroad
5. Chain of Rocks.....	Between North St. Louis and Madison County.	Private Stock Co..	Highway
6. Lewis and Clark....	Between St. Charles County and city of Alton.	do....	Do.
7. The Missouri & Illinois Belt Railroad bridge.	.....do.....	Several railroads	Railroad

Two new interstate bridges to accommodate railroad traffic may be needed in the St. Louis Region. The function of each would be in the nature of a by-pass, one north and one south, to facilitate the movement of through freight which comprises approximately eighty-five (85) percent of all railroad traffic entering the St. Louis gateway. The location and the need for each bridge will be determined by the future volume of traffic and the method of operation of the St. Louis terminal. If and when constructed, they should be integrated with a unified operation of the St. Louis terminal.

Two new interstate bridges to accommodate highway traffic will probably be needed in the St. Louis region.

One such bridge is now under consideration to be located immediately north of the central business districts of St. Louis and East St. Louis. It would reduce congestion on the Municipal Bridge as well as within the business districts of both cities. The other bridge should facilitate through traffic and by-pass movement in the southern portion of the region, there being no bridge now across the Mississippi south of the Municipal Bridge.

It is important that Federal, State, and local authorities cooperate to see that all of these new bridges are located properly. One of these highway bridges would probably now be under construction had there been a single agency of government with regional jurisdiction. Plans were drawn for this bridge, but there exists no single public agency having jurisdiction on both sides of the river to sponsor it.

Flood Control and Conservation

The flooding of considerable land adjoining the Missouri and Mississippi Rivers within the St. Louis Region during times of high water is prevented by levees. A large portion of this low land is occupied by industrial, commercial, and residential development, especially in the river-front communities of the Great American Bottoms. While flood control is an important problem in the region it is only a portion of the flood problem in the entire Mississippi watershed area.

The Federal Government, because of its jurisdiction over the rivers, is partially responsible for flood control measures in the St. Louis Region. Acting through the Corps of Engineers, United States Army, it has control over the location, construction, and development of the levees or over any other methods of dealing with flood-control problems whenever Federal funds are involved. The height of levees and the distance between them within this region directly affects flood problems above and below the St. Louis area. Obviously no local governmental agency could exercise complete jurisdiction over flood control within the St. Louis Region.

Citizens of the region have a direct interest in flood-control problems. The safety of many lives and of much property is jeopardized by floods each year unless there is adequate protection. In order to care for the maximum flood waters the highest levees must be placed far apart. This leaves a considerable area of land that will not be covered during periods of normal high water. What use should be made of this land throughout much of the year when it is not needed for use as a storage reservoir? Could it be used to good advantage for special recreational purposes? How much of it should be retained in private ownership for farm use as at present? These are matters for joint consideration and action by Federal and local interests. A regional authority such as proposed in this report should prepare a comprehensive plan showing the most appropriate type of development of all lands immediately adjacent to the Mississippi and Missouri Rivers. The protection of water supply, the control of sewage disposal, and the development of harbor facilities for river-front communities, docks for private industrial plants, and possibilities of using the levees as river-front drives should be considered in the preparation of any such comprehensive plan. Many improvements of the type here suggested should undoubtedly be included in future public-works programs. Such improvements would be of greatest permanent benefit to the largest number of people.

Dams, Lakes, and Recreational Facilities

Public recreational facilities along the waterways within the St. Louis Region are almost entirely lacking No great city stands in greater need of such facilities. There are excellent opportunities for providing these much-needed facilities if there can be coordination of local, interstate, and Federal effort.

In 1929 the City Plan Commission of St. Louis prepared a report recommending the development of a large park along the Mississippi River at Sawyer's Bend in the northern part of the city. The sharp bend and rapid current in the river at this point have long offered a difficulty to navigation. For almost 10 years the Federal Government has given consideration to eliminating this bend by creating a new channel between the Chain of Rocks Bridge and the Merchants Bridge.

The plan suggested by the City Plan Commission is shown in figure 29. It was proposed that the Federal Government, acting through the Corps of Engineers, United States Army, would gradually develop the new channel. During the process of channel straightening, the back areas could be partially filled by the building of dikes. The remainder of the park area could then be brought to desired grades by hydraulic filling.

The proposed park area, containing approximately 3,150 acres, would afford many advantages to this region. The protected water areas in the old channel would provide fine opportunities for bathing and boating which are generally needed. A park of the size proposed would provide almost unlimited recreational facilities. The proposed airport here would alone justify the entire improvement because of its proximity to the central business district of St. Louis and the ex-

cellent opportunities of accommodating both land and sea planes.

A regional authority would be the logical agency to sponsor such a project. This project is a fine example of the type of improvement needed for the future and which can be undertaken to best advantage by an agency of government which is free of the hampering restrictions of present political boundaries.

One of the first activities of the St. Louis Regional Planning Commission was a comprehensive study of this lake area and the preparation of plans proposing the development of a park and parkway along the entire shore of the lake within the St. Louis Region. These studies revealed that in addition to acquiring the land that would be flooded by the normal level of the lake, the Corps of Engineers, United States Army, was authorized to acquire flowage easements over all adjacent land that was not more than 3 feet above the normal lake level. This easement was to be acquired for flowage purposes only, and protected the Government against possible flood damages resulting from the construction and operation of the dam. While the Federal Government would prohibit, or at least control, the location of any structures within the area covered by the easement it was not responsible for any maintenance of policing thereon. It was further revealed that the cost of acquiring this easement would frequently approach the cost of acquiring fee simple title.

In certain instances where land is quite level the easements cover considerable area adjoining the lake. The proposed parkway and recreational facilities could be developed on this land wherein flowage rights were to be acquired. The Army engineers were agreeable to such development, but the grant of funds from the Public Works Administration for this project did

FIGURE 28.—View showing lake soon to be impounded by Dam No. 26 on the Mississippi River at Alton, Ill. Federal cooperation and assistance is a vital necessity in the realization of this most desirable improvement

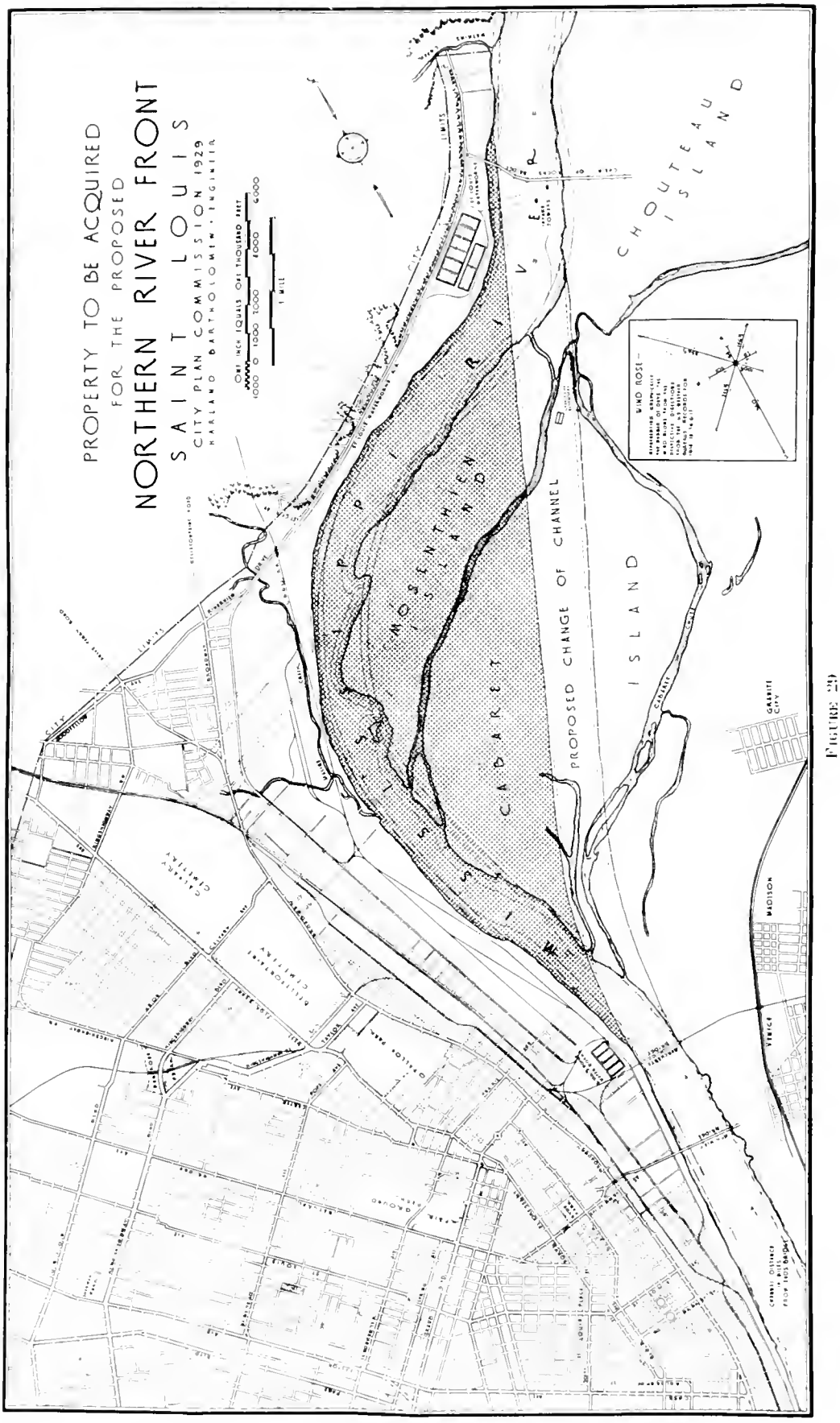

PROPERTY TO BE ACQUIRED
FOR THE PROPOSED
NORTHERN RIVER FRONT
SAINT LOUIS
CITY PLAN COMMISSION 1929
HARLAND BARTHOLOMEW, ENGINEER
ONE INCH EQUALS ONE THOUSAND FEET
1000 0 1000 2000 3000 4000
1 MILE
MISSISSIPPI RIVER
MOSENTHIEN ISLAND
CABARET ISLAND
PROPOSED CHANGE OF CHANNEL
CHOUTEAU ISLAND
WIND ROSE
CEMETERY
CEMETERY
CEMETERY
MADISON
VENICE
CARONDELET

FIGURE 29

not include authority to obtain an easement for highway and recreational purposes. The Regional Planning Commission assisted in securing the necessary authorization which can now be taken advantage of. It was also necessary to secure commitments from the States of Illinois and Missouri to accept responsibility for the maintenance and policing of any park and parkway development within the area covered by the easement.

Land has been acquired along the entire Illinois shore of the lake between Alton and Grafton through dedications by property owners. The Works Progress Administration has approved a project submitted by the city of Alton for the construction of the roadway and bathing beaches along this portion of the lake. Work has already started upon this project for which a grant of $2,782,000 has been approved.

This project is a further example of the advantages that can be obtained from coordinated action. A much needed recreational improvement is being obtained by a small local expenditure supplementary to the amount that the Federal Government is expending for improving navigation facilities. An official regional authority would have proved of great assistance in bringing about the necessary coordination and would also have been the logical agency to sponsor the project. The Missouri shore of this lake is not being improved because of the lack of such a regional authority.

Parkways should be constructed from the new dam at Alton southward to the proposed new park at the Chain of Rocks. Such parkways would furnish the only access to the confluence of the Missouri and the Mississippi Rivers. This area should be in public ownership. The location of these parkways and the use of the adjoining land raise problems of Federal, interstate, and local interest and authority.

Both the Missouri and Mississippi Rivers are followed by the main duck flights. The Missouri State Planning Board has proposed the development of a large game preserve between these two rivers near their confluence. All three governmental agencies, namely, Federal, State, and local, have a direct interest in this project. If the proposal is found desirable, the Biological Survey Department of the Federal Government and the Missouri Game and Fish Department should participate in its acquisition, development, and maintenance.

The Jefferson National Expansion Memorial

In 1925 the City Plan Commission of St. Louis undertook a study of the improvement of the entire Mississippi River waterfront. One of the recommendations was for the acquisition and improvement of the central waterfronts, being the original site of the early city. This site has much historical significance. Here was the center from which many of the early western pioneers started upon their explorations. Here, on March 9, 1804, the Spanish commandant transferred Upper Louisiana to Maj. Amos Stoddard, who took possession in the name of the French Republic, and on the following day "assumed the country and the Government in the name of the United States."

In 1935 Congress created the Jefferson National Expansion Memorial Commission which has given consideration to the most suitable form of development of this area as a national monument to Thomas Jefferson and the early pioneers as well as a memorial which would fittingly commemorate the vast territorial expansion in the western portion of the United States.

By the terms of an Executive order, President Roosevelt has allocated $6,750,000 to be expended in the acquisition of the site of this memorial. The citizens of St. Louis have approved a bond issue of $7,500,000 to be expended as their share of an estimated $30,000,000 project. Thus the Federal Government and the local community are cooperating in the development of a great national memorial which will be the outstanding central feature of the region. The site of the original settlement of St. Louis is still the physical center of the region. The location on the river is happily reminiscent of early origins. No design has yet been adopted for the memorial. It is proposed that a national competition be held in order to secure an adequate design. Of equal significance to the design is the matter of approaches to the memorial. It should not be left in an isolated position. Wide commodious approaches from the great highways and parkways of the future regional city will add dignity and value to the memorial as the main central focal point.

Public Health—Sanitation—Miscellaneous Regional Problems

There are several public health and public welfare matters of common interest to the communities on either side of the river. The most important of these is the smoke problem. During much of the winter a heavy pall of smoke hangs over the central part of the region to the detriment of property and the health of citizens. The smoke problem is one of the most serious problems in this area. Large quantities of bituminous coal are available within the region. To prohibit its use might be a temporary hardship and yet some means must be found whereby it can be used without the great injury now caused by unrestricted

use. It is an interstate as well as a local problem. The health as well as the economic welfare of large numbers of people are involved. Only by control of some central agency of government can this matter be dealt with successfully.

Standards of public health and sanitation vary considerably in different parts of the region. Most communities in Missouri discharge free sewage into open streams. Only recently have any main line sewers been built. Much further construction of sewers and treatment plants is needed. A central agency of government could do much to improve conditions of this character.

In certain of the Illinois communities wretched housing conditions exist. These can be attributed in part to absentee landlordism. There are also several slum areas in St. Louis as well as in certain cities and unincorporated areas on both sides of the Mississippi River. There is need for a central housing authority in both the Illinois and Missouri portions of the metropolitan district if not for a single housing authority for the entire region.

The Illinois portion of the region has all the problems of a great city, but it lacks the financial resources to deal with these problems. Many of the owners and operators of industry live in Missouri and the large banks, department stores, and offices are in St. Louis. The Illinois portion of the region is handicapped also within its own State because of the great concentration of population and of wealth in Chicago, which makes it difficult to secure adequate State funds with which to deal with metropolitan problems in the Illinois portion of the St. Louis Region. If the Illinois portion of the region were part of one great metropolitan or regional city, its numerous problems would receive more thorough consideration and more adequate treatment.

It has been suggested that a new agency of government should be created whereby either the metropolitan district or the region could have the advantage of certain unified administrative functions of government. This could be either in the form of a new consolidated city, or by creating a new governmental agency limited to the exercise of certain powers, such as the Port of New York Authority which is empowered to make a comprehensive plan for the Port of New York, to issue bonds and to construct railroads, bridges, tunnels, and similar improvements within either of the States of New York or New Jersey. Within the St. Louis Region it is evident that some form of centralized authority is needed to adopt and enforce a comprehensive regional plan. This would be of inestimable aid to local communities. In addition to the planning function, such an authority might be empowered to exercise partial if not full control over one or more such matters as public health and sanitation, interstate traffic and highways, river crossings, unification of terminals, zoning, housing, parks, and recreation. Within the St. Louis Region there are 695 agencies of government but not one is empowered to consider problems of the region as a whole or to exercise any administrative authority of this sort. In the light of present needs it would seem that there should be some official governmental agency to consider problems of coordination in the region.

For the past 20 years American cities have been engaged in city-planning endeavors whereby many mistakes have been avoided, more orderly development facilitated, and public works of greatest community benefit constructed. The waste in the development of regional cities exceeds that in individual. Some form of official coordinated planning in regional cities will be of inestimable value in directing growth into orderly channels, in curbing waste, and in determining the location and character of public works of greatest public benefit.

SECTION VII
PLANNING ADMINISTRATION

The preparation of plans for future improvements will not, per se, insure the proper development of the region. The regional plan must be consistently followed and sympathetically administered if there is to be orderly growth. The successful execution of any plan involves two prerequisites, namely, (1) legal authority for official adoption of plans, and (2) widespread citizen support.

Present Status of Planning

Figure 30 shows the past and present planning activities within the region. Practically all planning has been confined to the area within or adjacent to the city of St. Louis, with the majority being found in St. Louis County, Mo., and only a small amount in the Illinois portion. Of the 90 incorporated communities only 17, or 18.8 percent have undertaken any planning activities, and only 8 of these, or 8.8 percent have comprehensive plans.

Zoning has been more widely undertaken than any other planning activity. On January 1, 1936, there were 15 zoned municipalities within the region, and 14 of these were located within the metropolitan district. The 14 municipalities covered an area of 101.4 square miles. Thus 88.0 percent of the metropolitan district, wherein the large majority of population resides, is unprotected by zoning and consequently is subject to speculative building practices and unwisely planned improvements.

Only one county, i. e., St. Louis County, has undertaken any definite planning activities. A comprehensive highway plan was prepared for this county in 1930. All of the extensive highway improvements undertaken during the past 6 years have been in harmony with this plan.

Considerable progress has been made in carrying out several of the comprehensive city plans, particularly the plans for the City of St. Louis and University City. The city plan of St. Louis was prepared in 1916–18, after which a financial plan was prepared which resulted in the passage of a large bond issue in 1923. This enabled St. Louis to complete many of the recommendations of its city plan during the past 12 years. Forty-four percent of the total miles of streets that were recommended to be widened are now completed and paved. Grade separations have been constructed; playgrounds and neighborhood parks acquired and improved; public buildings constructed; the Memorial Plaza acquired and cleared; and much other important but less spectacular work done.

University City has made excellent progress in carrying out its city plan. This city affords very definite evidence of the many advantages of coordinated planning. The city plan was made in 1920 when the city had less than 5,000 population. Today the population is more than 25,000. Many stores, apartments, and flats have been built in addition to a very large number of residences. Each has found an appropriate place without encroachment upon other forms of building. Subdivisions have been redesigned in harmony with the plan. Parks and schools have been located as contemplated by the plan. The zoning ordinance has been followed without modification or change. This city now presents one of the outstanding examples of a community having a most stable, satisfactory, and well-balanced design and arrangement.

Existing Planning Legislation

The planning legislation now available within the region may be briefly summarized as follows.

City Planning Laws

The State of Missouri has no city planning act although the charter of the City of St. Louis provides for a planning commission. Missouri cities have, of course, an inherent right to plan, but there is no legislation available to give the plans any official status or to establish uniform procedure.

The State of Illinois has a planning enabling act applying to all municipalities. This act provides for a planning commission and outlines its powers and duties. Although certain proposed physical improvements are to be submitted to the commission for its approval and recommendation, the act does not provide a specific method of procedure for the adoption and enforcement of an official plan.

Subdivision Control

In Missouri cities the approval of subdivision plats within the incorporated area rests in the hands of the governing body, and this body, upon its own initiative, may request recommendations from the planning commission.

In Illinois all subdivision plats within the city limits and for a distance of 1½ miles outside thereof, must

be submitted to the planning commission, if such a body exists, before they are approved by the governing body.

Neither Illinois nor Missouri has legislation enabling the planning commission to require that essential public improvements, such as streets, sewers, water, and the like, be installed before the subdivision plat is approved and recorded. Such legislation is needed to prevent much poor subdivision of land, such as has occurred in the past few years.

Building Lines Along Major Streets

Illinois has recently enacted a law permitting municipalities to establish building set-back lines along streets. While this act is not as detailed as similar acts in other States, it should insure adequate width for traffic needs upon future major streets without prohibitive cost. The State of Missouri has no such act. At a recent session of the Illinois Legislature an act was passed authorizing establishment of building lines on county highways.

Zoning

Both Missouri and Illinois have enabling acts permitting municipalities to adopt and enforce zoning regulations. Both acts are quite satisfactory. All municipalities can adopt satisfactory zoning plans under the provisions of the acts.

County Planning and Zoning

No laws are available within the State of Missouri authorizing either planning or zoning within the counties. An unofficial planning commission exists in St. Louis County which has done much to bring about a widespread interest in and appreciation of planning. This commission has helped to guide many public improvements in an orderly way.

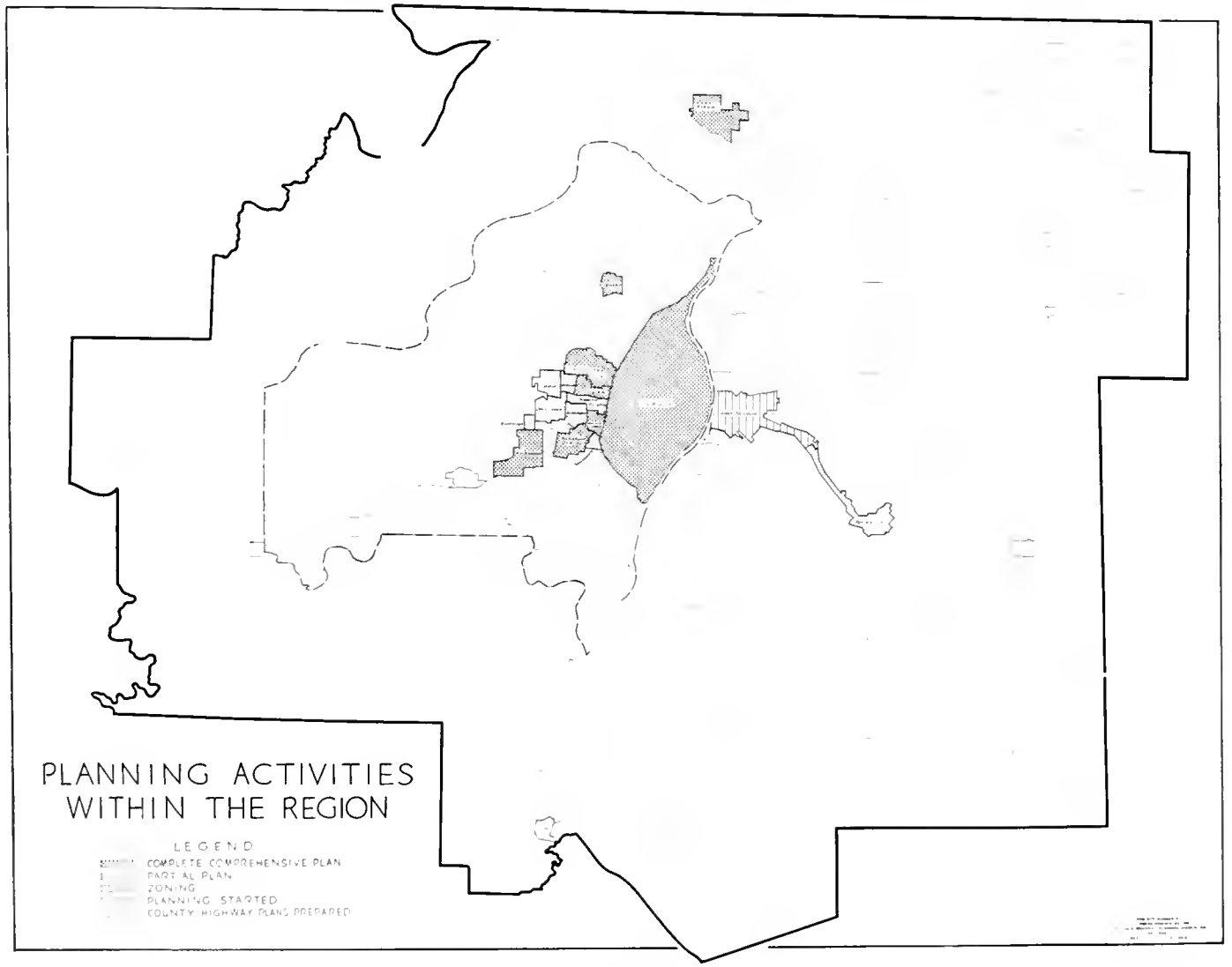


FIGURE 30

Illinois has a State law authorizing county or regional planning boards and outlining their powers and duties. Under authority of this act county planning commissions have been created in Madison, St. Clair, and Monroe Counties. These three commissions have wisely united to form the Tri-County Regional Planning Association. The powers of such county planning boards are somewhat similar to the powers of the city planning commissions. A State law permitting county zoning in Illinois was adopted in 1935. No counties within the St. Louis Region have yet taken advantage of its provisions.

Needed Planning Legislation

If the maximum benefits are to be obtained from planning within the St. Louis area, certain additional legislative action is essential. The kind of legislation most needed is of four types, as follows:

1. *Legislation permitting the preparation, adoption, and enforcement of official plans in local areas.*—A city or county plan should be consistently followed, yet under the present legislative authority no plan can have official status and may be completely ignored by public officials. The plan for each administrative area should be officially adopted and any proposed improvement affecting any portion of the plan should be referred to the planning commission for study and report.

Any project that did not conform to the plan and was so reported by the commission should not be undertaken unless it received a substantial majority vote (possibly four-fifths) of the local council or other governmental authority. This is the usual procedure outlined in the Standard Planning Act. Such an act should be adopted by both Illinois and Missouri at an early date.

2. *Legislation permitting the establishment and enforcement of building lines along major streets.*—Street widening, particularly through developed areas, is an expensive undertaking. If all new buildings were kept back of the future street lines, the few remaining buildings encroaching upon the future street lines would gradually become of less value and the street could eventually be widened at comparatively small cost. Such legislation has proved quite effective and advantageous in a number of cities. An act permitting this procedure is urgently needed in Missouri. As has been indicated, Illinois now has an act embodying these major principles.

3. *Legislation permitting control of subdivision development.*—One of the most effective methods of controlling excessive and premature subdivision of land is to require that the subdivider provide all necessary public improvements before the plat can be recorded and any lots be sold. Such improvements would involve considerable expenditures and the subdivider that is not willing to accept such obligations and responsibilities should not be permitted to subdivide land. If improvements are required in the first development of the land the subdivision of property will be much more closely adjusted to the demand and need for additional lots, the wasteful practice of land speculation will be minimized, and the health and general welfare of the community will be improved. This type of legislation has been enacted in several States and is seriously needed in both Missouri and Illinois.

4. *Legislation to permit county planning and zoning.*—A considerable portion of the present and probable future urban area within the region is unincorporated, yet it should be protected by both planning and zoning activities. The county is at present the only Government unit within these areas, and should be provided with both planning and zoning powers. Although Illinois now has a county planning act it does not provide for an official plan. Legislation, including the three essential provisions previously discussed, namely, official plans, building line restrictions, and subdivision control, should be enacted in both Missouri and Illinois. Legislation enabling county zoning should be enacted in Missouri.

Planning Administration

Local governments and local planning agencies cannot be expected to prepare a regional plan, neither can it be expected that the State or the Federal Government will find opportunity for a detailed comprehensive plan within the St. Louis region. There must be a separate and distinct regional planning authority if there is to be an orderly and economic growth in scale with actual needs. Such an authority has been described in the preceding section "Federal and Interstate Problems."

The Federal Government in the States of Illinois and Missouri now have planning commissions engaged in the study and preparation of plans for their respective areas. Plans prepared by these bodies will furnish much of the framework for a regional plan. The regional plan in turn will furnish a basic framework for the respective county and city plans. Authorities in the lowest administrative areas will have to prepare plans in greatest detail, while planning authorities in the higher administrative areas will aid in the determination of the scale for local plans. The detailed data prepared by local planning agencies will be of great value to the higher planning administrative authorities. The closest possible coordination between

planning agencies in each level of Government is desirable.

Pending creation of one central planning authority for the St. Louis Region it would seem desirable to have two regional planning authorities with jurisdiction respectively in the States of Illinois and Missouri. In Illinois this has already been accomplished through the formation of the Tri-County Regional Planning Association, by joint action of the planning commissions of Madison, Monroe, and St. Clair Counties. This Tri-County Regional Planning Association, however, lacks authority to adopt and administer an official regional plan. Legislative action is needed in both States to create official regional planning agencies.

Need of Citizen Support

Public officials are responsible for executing the regional plan, but its success or failure will depend upon the attitude of the citizenship. The public officials are agents of the citizens and, as such, are generally quick to follow prevailing attitudes and opinions. If the citizens desire that the plan be consistently followed, and this desire is definitely expressed, officials will see that it is followed. On the other hand, if the citizenship is apathetic or uncertain, no plan will prevail and past policies of carelessness and waste, unrelated development, high taxation, and poor living conditions, will fix the standards of the future of the region.

APPENDIX
COOPERATING COMMITTEES

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Carter W. Atkins, *Vice Chairman*

Bruce Campbell — Walter A. Heimbuecher — R. Guy Kneedler

HIGHWAYS

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Roy Jablonsky, *Vice Chairman*

John M. Crutsinger
Paul H. Daniels
Charles Diel
Albert Gardner
B. C. McCurdy
Girard Varnum
S. F. Wilson
Scott Wilson
Walter Howden
C. J. Hug

HISTORY

McCune Gill, *Chairman*

B. Cordell Stevens, *Vice Chairman*

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Miss Bernadine Smith
Ben L. Emmons
H. C. Gerke
Wm. E. Rolfe
W. J. A. Schnbel
Henry C. G. Schrade
Reverend Stevens
Herman F. Hanson
Isaac Lionberger

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J. A. Wolfe, *Vice Chairman*

Mrs. E. M. Grossman
Wesley W. Horner
James Lee Johnson
Eugene Klein
W. L. Wimmer

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R. Vernon Clark, *Vice-chairman*

S. W. Allender
David Bailey
P. M. Davidson
C. B. Fox
Prof. Lewis F. Thomas
George Lochman
Al. McCormack
A. P. McCormack
John Ring, Jr.
George C. Smith
Walter Weisenberger
George H. Streiff

LAND USE

B. C. McCurdy, *Chairman*

Delbert Wenzlick, *Vice-chairman*

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Chester A. Dougherty
G. C. Hetlage
Dr. Isaac Lippincott
Edward Portz
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E. R. Kinsey, *Vice-chairman*

F. R. Fitzman
James P. Flannery
Harry Frech
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C. J. Hug, *Chairman*

A. P. Greensfelder, *Vice-chairman*

Joseph M. Darst
E. P. Griffin
Dr. A. F. Kaeser
Thomas S. Lytle
Alfred Wyman
John McAdams
N. C. McClean
Dr. George T. Moore
J. E. Schwab

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C. E. Jenks
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Wesley W. Horner, *Chairman*

H. McK. Brown, *Vice-chairman*

William Elbring
E. F. Harper
William P. Hacker
Walter A. Heimbuecher
C. M. Horner
J. N. Wilson
S. H. Kernan
E. C. Renard
Hyman Shifrin
Major W. A. Snow
Hon. E. E. Wall

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Julius Muench, *Chairman*

Col. F. G. Jonah, *Vice-chairman*

H. Clay Baker
Hon. Baxter L. Brown
Louis Blumberg
E. C. Constance
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E. M. Durham
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Herman J. Pfeifer

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